University News

IARI Convocation

Prime Minister, Shri Rajiv Gandhi, delivering his address at the Silver Jubilee Convocation of the Indian Agricultural Research Institute, New Delhi

CLASSIFIED ADVERTISEMENT

GANDHIJI UNIVERSITY

KOTTAYAM

NOTIFICATION

Applications are invited for appointment to various posts under the University as detailed below.

Name of Department	Category and No. of Posts
1. Basic Medical Sciences	— Professor — 1, Reader — 2, Lecturer — 4
2. Gandhian Studies	— Professor — 1, Reader — 2, Lecturer — 4
3. International Relations	— Professor — 1, Reader — 2, Lecturer — 4
4. Physics/Material Science	— Professor — 1, Reader — 2, Lecturer — 4
5. Polymer Chemistry	— Professor — 1, Reader — 2, Lecturer — 4

1. **Scales of Pay**

Professor — Rs. 2450-100-2850-125-3600
Reader — Rs. 1950-75-2100-85-2950
Lecturer — Rs. 1300-75-2725

2. **Age**

Professor — Not more than 50 years as on 1.1.1986
Reader — Not more than 45 years as on 1.1.1986
Lecturer — Not more than 40 years as on 1.1.1986

Note : (a) The prescribed age limit is relaxable in cases otherwise suitable.
(b) Usual relaxation admissible in the case of OBC, SC/ST Candidates.

3. **Qualifications and Experience**

A. For Posts of the Departments other than Basic Medical Sciences

Professors ; A First or Second class Master's Degree with Ph.D in the concerned subject and about 10 years post-graduate teaching experience at University or college level. Experience in guiding research at Ph.D. level.

Note : In the case of outstanding persons in the concerned field teaching experience is relaxable to the extent of 5 years.

Readers : A First or Second Class Master's Degree with Ph.D. in the concerned subject and 5 years teaching experience at University/College level. Experience in guiding research at Ph.D. level.

Lecturers : A First Class Master's Degree in the concerned subject with 2 years teaching/research experience or Second Class Master Degree with Ph.D. Research experience in the concerned subject.

Note : For posts in the following Departments candidates with the above qualifications in the subjects mentioned against each may also apply.

Gandhian Studies : Political Science, Sociology, History, Philosophy, Economics, Education or M.S.W. with specialisation in Community Development.

International Relations : History, Politics or Economics.

Polymer Chemistry : Chemistry.

B. For Posts in the Department of Basic Medical Sciences

(a) **Professors**: (1) M.B.B.S. with M.D. or M.Sc. in first or second class in the concerned subject with Ph.D. in the respective field or specialisation viz. (a) Microbiology (b) Pathology (c) Biochemistry. (2) 10 years teaching experience at the University or College level. (3) Research accomplishments as evidenced by publications in standard journals. (4) Experience in guiding research at M.D. or Ph.D. levels.

Note : In the case of outstanding persons in the concerned field teaching experience is relaxable to the extent of 5 years.

(b) **Readers**

(1) **Post I**—M.B.B.S. with M.D. M.Sc. in first or second class in the concerned subjects with Ph.D. in Microbiology.

Post II—M.B.B.S. with M.D. or M.Sc. in first or second class in the concerned subject with Ph.D. in pathology.

(2) 5 years teaching experience at University/College level.

(3) Research accomplishments as evidenced by publication in standard journals.

(4) Experience in guiding research.

C. **Lecturers**

(1) M.B.B.S. or M.Sc. in one of the following subjects with first class and 2 years research/teaching experience or Second class in one of the following subjects with Ph.D. (a) Anatomy (b) Physiology (c) Biochemistry (d) Microbiology (e) Pathology.

(2) M.D. or Ph.D in one of the above subjects desirable.

4. **General**

In making the above appointments communal reservation will be followed as provided under the Gandhiji University Act 1985.

Forms of application and other details can be had directly or by post from the office of the Gandhiji University on requisition specifying the post for which the form is required, and on payment of Rs. 2/- in the form of a Postal Order or Demand Draft payable to the Finance Officer, Gandhiji University at Kottayam. The requisition for application shall be addressed to the **Registrar, Gandhiji University, Kottayam, Kerala 686 002.** Those who wish to get the application by post shall also send a self addressed envelope of size 27 cm x 12 cm along with the requisition.

The last date for the receipt of filled in application is 20.3.1986.

Prof. K. Madhavan Pillai
REGISTRAR

ASSOCIATION OF INDIAN UNIVERSITIES

AIU House, 16 Kotla Marg
New Delhi-110002

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IN THIS ISSUE

Editor :
M.S. RAMAMURTHY

Employment and Education

Shri L.K. Jha, Adviser to the Prime Minister on Administrative Reforms, delivered the Sital Primlani Memorial Lecture 1986 organised by the Federation of Publishers and Booksellers in India at New Delhi on 11 February 1986. This highly perceptive address is being reproduced for the benefit of our readers.

There has been in recent months, a nation-wide debate on educational policy. The publication by the Ministry of Education of a document, entitled "Challenge of Education—a policy perspective" which posed many key issues and threw them open for discussion and comments led to a series of seminars and lectures being organised dealing with different aspects of educational policy. Not being an educationist, I do not consider myself to be competent to comment on many of the questions that have been raised.

However, because of my own background which has an economic bias, I have been deeply interested in two issues : firstly, how to make the educational system strengthen our developmental effort by making available the kind of manpower needed for the purpose, and secondly what can be done to ensure that of those who receive education can get usefully employed and not remain jobless. Indeed, the two considerations are the two sides of the same coin. Productive, gainful employment for the educated maximises the contribution of the educational system to the nation's economic development.

Way back in September, 1949, Prime Minister Nehru in one of his fortnightly communications which he used to send to the Chief Ministers of States drew their attention to the need for extensive reforms in the field of education. Commenting upon the educational system, the nation had inherited from the colonial days, he wrote:

> "these examinations of ours and the education that lies behind them are looked upon just as stepping stones to employment by Government. Nothing could be worse for education. Our Universities turn out tens of thousands of graduates who do not know what to do and appear to be incapable of doing anything except in office. Our education has been described, perhaps a little uncharitably, as a training for unemployment."

Since then, much has been done and large investments have been made to spread education among the people. The number of recognised educational institutions has increased from 2.31 lacs in 1951 to estimated 7.55 lacs in 1984-85. The total enrolment over the same period has gone up from 24 million to nearly 132 million. The national stock of educated manpower is estimated to have risen from less than 4 million to about 48 million at present, the annual increment to the stock being of the order of 3.5 million. The enrolment for post-graduate study has grown from a mere 20 thousand in 1951 to over 3 lacs by 1984-85, while that in science subjects is estimated to have increased from 4400 to about 73 thousand. Extensive facilities are today available for education in a variety of branches of engineering and technology.

The output of the system has contributed significantly to our achievements in areas like atomic energy and satellite communication. The shift

from a subsistence agriculture to modernised and commercialised agriculture has also been occasioned, at least partly, by the availability of the trained manpower in the field of agricultural research and extension. Similarly, the massive diversification and technological depth that we have been able to achieve in the industrial sector has been significantly helped by the emergence of institutions like the Indian Institutes of Technology and the Institutes of Management.

However, the achievements to which I have just referred cannot lead us to ignore the fact that the weaknesses to which Nehru had drawn attention have persisted and perhaps even grown worse. A vast number of students go to universities and colleges only because degrees are needed for most government jobs. Further, most of those who call themselves educated look only for office jobs and are reluctant to soil their hands by working in the field or factories.

There are tremendous imbalances between the need for educated personnel and their supply. We seem to have a surplus of people with degrees, not just Bachelor's degree, but also post-graduate and research degrees, who cannot find suitable employment. The highest percentage of unemployment, according to such figures as are available, seems to be amongst graduates offering arts, science and commerce.

At the same time, I cannot help feeling that a vast number of jobs in the country are being performed by people who have not been adequately trained or educated to fulfil them. In many of our hospitals, the doctors and surgeons are as good as you can find anywhere in the world. Yet, because of deficiencies in the quality of the rest of the hospital staff, their performance in terms of curing deadly ailments is well below what it is in other countries. Again, though the number of people engaged in maintaining the telephone system is larger than in most countries of the world, the efficiency of the telephone system in India is at a very low ebb indeed. Or take the number of road and rail accidents. With a far lower density of traffic, the number of casualties are shockingly high, but somehow they get accepted as if they were inevitable. To my mind, it is the inadequacy of education and training of all the ground-level operatives involved in these various fields which is responsible for the inefficiency, the waste and the damage to which I have just referred.

When thinking over ways of dealing with these problems, emphasis is usually placed on changing the curriculum of studies. It is urged that more institutions should be opened to impart technical education or vocational training. This is certainly necessary and desirable. Educational facilities of the right kind must certainly be made available.

However, something more is needed. The demand in the community for different types of educational facilities, which comes primarily from parents and upto a point from the students themselves, has also to be given the right orientation. Otherwise, there is every danger that facilities which are created remain underutilised and become wasteful instead of beneficial. Indeed, as we know in many States, technical institutions like the ITIs are not proving particularly popular. On the other hand, the demand for more degree colleges is on the increase, despite the fact that unemployment among degree holders is on the increase. What is more, with pressure from the public for more degree colleges, State Governments who have in a democracy to be responsive to public demand, go on increasing outlays on colleges and raising the number of universities, despite admonitions to the contrary from educationists, the University Grants Commission and others.

Most people, parents and students alike, think of learning as an instrument of learning. The pattern of public demand for different types of courses of study depends very much on the assessment that people have of their employment prospects after completing the education. Two types of education are most popular because they seem to offer the best prospects for earning. One is engineering and the other is medicine. The employment prospects of engineers are judged to be high. Doctors have the option of getting employed or engaging in private practice. The pressure for admission into IITs and Institutes of Management is also high—again for the reason that the employment and earning prospects of those who qualify are rated to be very bright.

Because of the high costs involved in setting up such institutions, their number is small and, therefore, the pressure for admission in them is great. In fact, there is reason to believe that to secure admission in some of these institutions, many corrupt practices are adopted. Further, so keen is the demand for admission to them that some institutions have come up on a purely commercial basis charging a high capitation fee which means that the capital invested can be quickly recovered and institutions can give a handsome profit year after year.

Against this background, I would suggest that teaching institutions in these fields should be rapidly increased. The resource problem can be solved by making them self-supporting and not depending on subsidisation by the exchequer. After all, if private people can think of setting up such institutions purely to make money for themselves, there is no reason why government cannot run them on a 'No Profit No Loss' basis in which the necessary capital is raised by borrowings. They can be repaid out of the fees charged which should, of course, cover the running expenses

as well. Indeed, with some encouragement and effort, private finance can also be obtained which would have a charitable rather than profit-making motivation. The only argument against such an approach which has been advanced is that the poorer children cannot afford the higher fees. But the opening of new institutions which are costlier need not affect their entry prospects into the existing institutions on existing terms adversely. Indeed, more room may become available in them. Further, even in the new institutions, scholarships could be given to the deserving. But, there is no reason why those who can afford to and are willing to pay the full cost of such education should be subsidised by the State, particularly if the very fact of subsidisation acts as a constraint on the expansion of educational facilities in these desirable fields.

II

I now turn to the ordinary degree colleges. While there is general agreement that we are spending too much of the scarce resources available for education on them, pressure for admission to them is very high, even though as pointed out earlier, a good percentage of the graduates remain jobless. The prime reason for this is that since Government is the largest employer, and since for a very high percentage of government jobs, a degree is a pre-requisite, most people think that degrees provide the best possible prospects of getting a job.

I have, for a number of years, been propagating the view that degrees should be delinked from government jobs, particularly as more often than not, the subject in which the degree is obtained, has no relevance or utility for the kind of service to which the recruitment is made. The reason why the British used to insist on a degree, was that in those days, English was the medium of instruction and a graduate was expected to have adequate knowledge of English to discharge his duties. This consideration is no longer valid. It seems to be pointless, and indeed, a waste that someone should have first to get a degree in subjects like Mathematics or Sanskrit before entering into an administrative service of one kind or another, and the training appropriate to the service to which the candidate is recruited has to be imparted thereafter, when the person is a probationer or during the course of the service itself. Would it not be much better to arrange for recruitment after the +2 stage itself and then to provide for the kind of education and training which would be useful for the kind of jobs he is expected to perform?

Once such a change is made, those who have failed in their attempt to be recruited to any service after finishing schooling, will not blindly go in for college education. They will do so if they are genuinely interested in a subject which they want to study for its own sake or because they want to teach it or because they want to do research in it. So, the college campus will become smaller in size, consist of serious minded students who are genuinely interested in what they are studying and not just to get a degree. Among them, there could well be a good number of students who having been recruited to a government service, are being made to study subjects, which will give them either the breadth of vision or the specialised knowledge which they would need. For example, those recruited for an administrative service, might well be called upon to study subjects like economics or sociology to broaden their minds, and also certain subjects such as languages, or law, which would be of direct use to them in their future career. Much of the campus unrest and the indiscipline, which are born of frustration and uncertainty will in such a regime disappear.

If following the same pattern, trade and industry, banks and business houses also began to recruit their candidates at the +2 stage, they could also expose them to a more purposeful course of study to equip them to shoulder the responsibilities that they will be called upon to discharge in the years to come. Students will willingly undergo such specialised courses if they have the assurance of a job. Further, since the cost of their education could in such a situation be borne by the employers, it would no longer be necessary to make huge outlays from the exchequer in providing the requisite educational facilities. The constraint of resources would thus get eased.

One can extend the same principle with certain adaptations for jobs which need vocational and technical training for which a high level of education is not very necessary. Students would cheerfully move from a middle school to an ITI if they have the assurance of employment. What is more, the involvement of the employer will mean that the syllabus of teaching will also be shaped and periodically revised to meet the employers' needs.

My basic emphasis, therefore, is on establishing closer links between those who recruit and those who educate. This would help alleviate the financial problem, both for the educational institutions and for the students. The teaching would be relevant and meaningful. Wastage would be avoided and the unemployment which results from a mis-match between demand and supply of educational personnel greatly reduced, if not eliminated.

III

These changes should mean in effect that except for jobs which by their very nature require a higher level of

education, it is the high school which will hold the entrance examination not for admission to universities alone but for getting employed. At the same time, within the high school system, a reorientation of the syllabus and curriculum should be undertaken to prevent the educated becoming, to quote Nehru's words, "incapable of doing anything except in office". So strong is the bias for a desk work that even engineers try to get into administrative services or else to take to managerial and commercial jobs instead of engaging in productive activities inside factories.

A change in the school curriculum is needed to make students appreciate the dignity of labour. Mahatma Gandhi's Wardha School of Education clearly aimed at introducing the work ethic in academic life. To the extent that students can be involved in doing or producing things even when they are studying, they would enlarge their capacity to earn later in life. When I was Ambassador in the United States, I found that even rich men's children did all kinds of work on the campus, or in shops and restaurants during holidays, in order to earn some money for themselves, not because they were needy but because they wanted to feel that they are self-reliant. It is this kind of an outlook which we need to cultivate.

I shall not dwell on the kind of steps that can be taken for this purpose but once again, I shall quote Prime Minister Nehru who made the following remarks at a time when the 'Grow More Food Campaign' was being actively pursued. He said :

> "We have plenty of projects and schemes. But behind all those there must be a crusading enthusiasm in the public mind. I suggest that our young men and women and boys and girls in colleges and schools should take this up. They can go to the villages to help in various kinds of labour and in doing so, educate themselves and come into intimate contact with the people who are the backbone of our nation. They can help in making compost which is so essential for us.....I think that we should utilise this opportunity not only for growing more food but for turning our education in a new direction where the work in the classroom and laboratory is married to practical experience in the fields. Whether that produces immediate results in food production or not, I do not know. But it will certainly produce marked results in the boys and girls."

IV

I have so far been dwelling upon changes in the techniques of recruitment and the educational system itself in the interest of promoting better and fuller employment for our educated youth. No less important it is to bring about changes in the economy which will create more demand for skilled manpower as distinct from unskilled labour. To the extent that more people are engaged in jobs which require higher levels of skills, their earnings will improve. In consequence, the national income as well as per capita income will begin to rise.

I believe the new thrusts in economic development which are associated with the lead and initiative given by Prime Minister Rajiv Gandhi are going to create employment opportunities in wholly new fields. There is a need to redouble our efforts for strengthening our trained manpower in such areas like electronics, computer systems, nuclear science, satellite communication, environment engineering, bio-engineering and non-conventional energy sources development and technology. The emphasis on R & D effort has to be accelerated for maintaining the tempo of the growth of technology. It is also necessary to steadily improve the quality of teaching facilities and to replace obsolete equipment to remain competitive with the emerging world trends in science and technology. A close coordination and interaction between educational training institutions and industrial establishments is necessary for keeping the faculty informed of the latest needs of industry and for transfer of technology from the laboratory to the industry.

In this context, I must make a special mention of manpower planning in the field of electronics industry which has been showing tremendous growth during the last few years and has the potential of continuing it in the coming years. In most of the emerging thrust areas of the electronics industry, which include basic technology, power semiconductor devices and equipment, electro-optics etc., there may be a shortage of manpower during the Seventh Five Year Plan period and beyond. To prevent it, we would have to take several steps including the strengthening of institutions engaged in imparting training in advanced technologies in electronics, augmenting on-the-job training facilities of some of the production agencies, setting up of advanced training centres, and giving emphasis to methods of training oriented towards conversion of laboratory know-how to production oriented know-how.

The manpower requirements of the energy sector, which is going to play a crucial role in determining our growth performance in the coming decades, are also of utmost importance. For strengthening and accelerating our efforts for the exploitation of the ocean wealth, encouragement must be given to scientific and technical personnel to carry on research and development in areas like ocean engineering, offshore oil exploration, marine instrumentation, diving and under-water technology, harnessing energy from the sea, remote sensing tech-

nology related to the oceans and oceanographic data processing and storage.

However, when we think of generating new employment opportunities for the educated, we need not confine ourselves to the new high-tech industries. The printing and publishing industry, with which all of you are closely associated, is another thrust area for augmenting employment opportunities. In this industry, we enjoy tremendous comparative advantage over industrial countries. Our asset is highly trained manpower available at much lower wages compared to those prevailing in advanced countries. I am reminded of what Mr. Harold Macmillan, former Prime Minister of U.K. and Chairman of the Macmillan and Co. once said about the relative advantage India enjoys in this sphere. He declared that India was perhaps the only country in the world where a Ph.D. was available for doing proof reading jobs.

I believe the printing industry in India can well be developed to be an export industry. At one time, Japan because it had cheap labour was printing the tickets for most airlines in the world and undertaking even the printing of the Asian Edition of American magazines. Japan has, however, withdrawn from this field with more rewarding employment opportunities in other areas. Many South East Asian countries are now playing this role. In my opinion, India has a vast potential for its printing industry to capture export markets. To do so some paper may have to be imported both because it would be cheaper and because we do not want to denude our forests. But our educated manpower can be employed in printing books and periodicals for export just as there is now a new thrust for Indians to produce software for computers.

At the same time, the vast potential of the domestic market should not be ignored. Just because sales have been expanding in the past, the industry should not take the view that it is doing as well as it could. I am convinced that as education spreads and incomes rise, the demand for printed material, both from the educational system and from those who have benefitted from it will have an exponential growth. On the supply side, I would strongly urge the industry to adopt the philosophy of keeping its costs and prices down. Instead of trying to maximize profit per copy of publication sold, it should seek to maximize its earnings by increasing its turnover and ensuring as large a sale as possible for all that is printed. In a poor country, keeping prices down is most helpful in promoting sales. Thus, the printing and publishing industry can play a positive and profitable role in promoting both Education and Employment. □

OVERSEAS STUDENTS

Madan Mohan*

Text of the paper presented to the Fourth International Conference of University Registrars and Administrators, New Delhi, 1986.

Gone are the days when the world was so big that it was difficult to travel from one country to another. If one were to do so, one would meet one's relations and say good-bye to them with the fear of no further meeting in the future...With the advancement of science and technology the means of communication have become so developed that the world has started looking like a globe where any country can be pointed out and spotted with a finger.

The international situation has also become so understandable that the advanced nations have come to realise that unless they carry their left-behind brethren with them, they would perhaps not survive.

Though, in certain cases the acquiring of knowledge by students belonging to nations of equal status is for mutual benefit, by and large the exchange of foreign students is confined to movement of students from less developed countries to more developed countries. In addition, agencies like, UNESCO, W.H.O., etc. and bilateral exchange programmes have contributed further towards this effort.

In certain cases some institutions invite foreign students to augment their financial resources but this should not be the spirit in which overseas students should be enrolled with the University.

Mr. Madan Mohan presenting his paper at the conference. Seen on his right is Mrs. Anne M. Lonsdale, Organising Secretary of the Conference.

Overseas students when they move from their own country to another, while carrying with them certain problems of their own, sometimes create problems for the students and the community of the country visited.

The socio-cultural milieu of the country visited in general and the campus community in particular is of significance in the process. The inter-governmental mechanisms evolved in the form of cultural agreements, the support services provided to implement these mechanisms at the embassy level and the communication channels set up at the institutional levels are very critical to the overseas students.

Traditionally, the outflow of students from India has been larger than the inflow; in that sense, we have learnt a great deal from the Universities in other countries about the nature of support services needed by intending overseas students. Many of our youth have looked to the West as the land of opportunity, of large scale employment opportunities, and of substantially attractive income levels. The Universities in the West have

*Registrar, University of Delhi and Chairman, Local Organising Committee, Fourth International Conference of University Registrars & Administrators.

had the best of facilities and as such, have attracted our best brains. Our experience has thus been largely in the field of outgoing students.

The Indian socio-cultural milieu has traditionally attracted overseas students in Indology and traditional subjects like Economics, History, Political Science, etc. and the related areas. Lately, the third world countries have been sending their youth for training in science. medicine and technology.

The admission process between the two countries sometimes starts so late that by the time the students arrive in the country where they have to receive education, it is too late in the vear and academic session by then is far-advanced. There has. therefore. to be a proper planning and coordination between the countries taking into account the time taken between the countries for meeting foreign travel/visa/passport requirements.

The students particularly those who come for first degree education are so young in age that they find it difficult to acclimatise themselves to the new environment and become home-sick. Therefore, while on the one hand there should be programmes organised for such students in the host countries to educate them about the cultural heritage and environmental adjustment, there should also be such programmes arranged in the country from where they come to educate them about the same. With the present state of developed facilities of video and TVs. this media could be put to maximum use in both countries for the benefit of such students.

The medium of instruction in the country where they receive education is a major factor which determines their comprehension of knowledge or the lack of it. A student should not be sent to another country unless he/she happens to possess sufficient knowledge of the language in which instruction is imparted in the country to which he is going.

In India, this has been a major problem in respect of students who have been coming from Arab countries in view of the fact that the medium of instruction here is English while the students do not possess adequate knowledge of the said language.

Recently we have thought of giving them fresher courses suitably designed for them in English. but the difficulties of learning English simultaneously with acquiring knowledge in other fields through the same language are obvious.

In respect of hostel accommodation for such students there are both advantages and disadvantages of accommodating them in general hostels meant for Indian students or in providing separate hostels for them in the form of International Students' Houses etc. It has to be remembered that such students do not come merely for studies. Their impact on the culture of the country they visit and the feed back they carry are also of great significance. It is this cultural impact that promotes friendship and brotherhood between nations and ultimately contributes towards better understanding among people of the universe. In this respect the respective embassies of the countries concerned can also play a leading role.

While it is good to have separate hostels for foreign students, it appears more advisable that they are accommodated in general hostels and there is a free exchange of thought and culture with the local students.

It has been observed sometimes that such students when they are away from their homes for lack of proctorial supervision indulge sometimes in use of drugs, narcotics, etc. and such discoveries come to notice very late.

There has to be a complete understanding on the part of the overseas students about what they are expected to do and what the institutions are to do for them. There is a need for systematic management of orientation programmes, host families programmes, guidance sessions. acculturation sessions, cultural heritage sessions, etc.

It has to be realised that foreign students carry much more good will and feelings of friendship from one country to another than embassies of the countries concerned at colossal costs. □

THE INSTITUTE OF MATHEMATICAL SCIENCES

MADRAS-600 113

The National Board for Higher Mathematics has recognised the Library of the Institute of Mathematical Sciences, Madras 600113 as a Regional Library with financial support. It is hoped that this will help in building up a reasonably complete library to cater to the needs of the mathematicians in the Southern Region. Mathematicians in the Southern Region are welcome to make use of the Library facility.

REGISTRAR

INDIAN SCHOOL OF MINES
DHANBAD-826004
A UNIQUE OPPORTUNITY

1. **Purpose of this Advertisement** : The present Director of Indian School of Mines, Prof G S Marwaha, who has held charge of the institution since Dec. 1972 is scheduled to retire on 30 June 1986. The purpose of this advertisement is to seek a suitable replacement to head the institute thereafter, for a term of five years which may be renewed. The post carries the pay-scale of Rs. 2500-100-3000 p.m. plus allowances at Central Government rates and a free furnished residence. The total salary at current allowance rates at the beginning of the Scale amounts to Rs. 5025.00 p.m. and at the end of the Scale Rs. 5800.00 p.m. The candidate should preferably be between 45 and 50 years of age but definitely below 55 years.

2. **Indian School of Mines** is the premier national institute servicing the manpower needs of the mineral industry and is deemed to be a University under the University Grants Commission Act. The School which is celebrating its Diamond Jubilee this year, has long and strong traditions of applied research and is equally active both in industrial testing and consulting and in the field of continuing education in the context of total human resources development.

Having diversified considerably in recent years and established an international reputation in several fields, the Indian School of Mines is now poised for meeting the challenge posed by the induction of modern technology in the various facets of the mineral coal and oil industries, including exploration, exploitation and beneficiation.

3. **Qualifications** : The candidate should be an outstanding scholar/engineer/technologist with established reputation who has made significant contribution to knowledge/engineering practice. He should have at least 15 years experience in teaching at an institution of University standard or research in a recognised institution/ organisation or of management in the industry, including government departments in a senior executive position or planning and administration of technical education. Out of this experience not less than five years should be as a Professor in an institution of University standard or in an equivalent position in research, industry or government.

4. **Personality Requirements** : The School is looking for a distinguished Earth Scientist, Mining/Mineral Engineer or Educationist capable of providing leadership and managing a diverse and interdisciplinary group of academics, researchers and student body. He should have the ability to interact strongly with the industry in general and the mineral industries in particular. He should have the ability to manage people and motivate them. He should be good at communication and have a sympathetic attitude to student problems. Dynamism and vision, coupled with ability to plan and administer, and courage in facing difficult situations is an important ingredient that is being looked for. The candidate should have dedication to the academic world and would be expected to take limited classes himself and participate in research.

5. **Application** on plain paper giving full bio-data should be sent to Shri A.N. Haksar, Chairman, Executive Board, Indian School of Mines, Dhanbad-826004.

The application should give the name and date of birth of the applicant, and details of academic and professional qualifications and experience. It should contain a note on what the candidate has in his opinion been able to achieve during the past ten years of his career and also on his suitability for this highly challenging assignment. The last date of receipt of application is 31st March 1986.

S. P. Varma

REGISTRAR

Shri Rajiv Gandhi Addresses Silver Jubilee Convocation of IARI

Text of the address delivered by Shri Rajiv Gandhi, Prime Minister of India, at the Silver Jubilee Convocation of the Indian Agricultural Research Institute, New Delhi on February 6, 1986.

"It gives me great pleasure to be with you today. Agriculture is the most important part of our economy and of our development process. The role that the IARI has played in India's agricultural development is known not only in India but right across the globe. As we look towards the next century, when we think of how India is to develop, when we think of new technologies, new sciences for India, our attention must remain centred on the agricultural sector. This will be so for many years. We have to see how we can develop our agriculture to break the hold of poverty, to bring our people out of the mire that hundreds of years of colonialism has thrust us into. Panditji had said, "Everything can wait but not agriculture". That has not changed. Indiraji had described agriculture as our Adi Mantra. It shows the type of importance that has been given to agriculture in the past.

Today, when we look back, we see the tremendous progress that our agriculture has made. But when we look ahead, the challenges are no less daunting. For our economic development we have to see that agriculture develops. And to develop agriculture we have to look at many other areas. There has been an old argument about a dichotomy between agriculture and industry. That in fact does not exist. If we look at our economy we see that most of our industrial development, when traced back, ends up as a support for agriculture.

When we talk of high technology today we are talking about bio-engineering, we are talking of better power for agriculture, better implements, better tools. We are talking of better forecast of the rains, the monsoons. All this requires very high levels of technology. When we talk of the monsoon, we need the biggest computers to be able to predict rains and do research on the monsoon. So, if we start with the field and the farmer and then work backwards to see what is needed to support that farmer, we cover almost every section of our industrial development.

It is when these developments are coordinated that true progress will take place. The breakthrough will come when the technology is brought together with proper extension work, so that the benefits can go from the lab right down to the farmer's field.

We have achieved a Green Revolution mostly in wheat and mostly in the North-Western parts of India. Today, our wheat production has gone up almost sevenfold. Our food reserves are very large. A country which was dependent on wheat imports is not only self-sufficient, but we have more than enough. We have to replicate this in other parts of the country and with other crops.

This is the real challenge that faces all of us today. We have to see that the balance is maintained region-wise and crop-wise. We have to start looking not just at wheat but also at how we can give a balanced diet, better nutrition to our people. If we look at the economy, we need a major breakthrough in rice, in oilseeds, in pulses. We have to see how marginal land can be transformed for fuel and fodder so that our forests don't come under pressure and waste lands are utilised. Our concentration and attention must go towards cash crops as well. As our productivity on the food front increases, hopefully less and less land will be required to produce more and more food crops and our attention mus. go to the cash crops to see that our imports are cut.

Looking back at the Green Revolution, we must give much of the credit for this to the IARI. And the IARI must now look towards how to achieve the same in the other areas. Perhaps the first area to concentrate on should be rice-high yielding, better qualities of rice, better productivity. Our productivity of rice is still very low—under two tonnes per hectare, while other countries have already gone over five. These are the sorts of challenges that you have to face. You have to see how better technologies can be brought in—technologies not just in searching for better seeds, but better methods in fertilizer use, better utilisation of the resources. Are we using too much fertilizer ? Can we do better ? Are we using too much water ? Can we economise and get better productivity from less water? These are the type of questions that you must address your minds to.

The areas where we would like concentration are the semi-arid areas the zones where productivity is very low, where poverty is still a very major problem. If our agricultural institutions can give a thrust that will break poverty in these areas, that will increase purchasing power which will then snowball and develop the entire region.

We have produced a lot of wheat but unfortunately our population

seems to be increasing almost equally rapidly. So, this challenge must not finish here. As I said, the challenge should not be just to increase the area under which the wheat is sown. The real challenge is to increase the productivity and lower the cost of production. We are falling into a very dangerous trap. We are subsidising food to a very great degree and if we go back to see exactly how much subsidy there is, then the number truly becomes astronomic. If we see how much subsidy there is in irrigation, how much subsidy there is in fertilisers, how much subsidy there is in certain kinds of transport, apart from the other inputs, this is becoming one of our major problems with our Plans. So the thrust has to be on how to reduce the cost of production of all our crops—cash-crops and food crops—because the country must become truly competitive.

We have set up biotechnology research centres here in IARI and in Izzatnagar. These centres will be the key to the next phase of our agricultural development. Your research will lead India into a new generation of development. We must see that this research is concentrated on the objective. We must not let it drift. We must see that certain targets, and certain time-limits for particular developments are established and checks undertaken along the line. The research must be result-oriented. And the result must come within a time-frame that is relevant. We have to go to our Eastern regions to see that our resources are used in the best possible way, whether it is irrigation, whether it is water management, soil management, agricultural implements. Basically we must develop a scientific ethos in the farmer. This will involve a lot of people going into the rural areas, a lot of practical work, a lot of hardship.

But without hardship nothing can ever be achieved. No nation can be built if the people are not willing to sweat and not willing to put up with difficulties. If we are to build India, we must sacrifice something on our part. This means hard work in the labs. But perhaps more important, it means going out and passing on your knowledge to the farmers, not just in the areas where development has taken place (because that is much easier) but in those areas where development has been slower, where agricultural productivity has not increased.

Our biggest problem today in the agricultural sector is oilseeds. We are setting up a thrust mission for oilseeds production. When we talk of a mission, we mean an exercise starting from the labs, starting from the engineering of the seeds, and finishing with the finished products of vegetable oil which could be delivered to the consumer. We would like to put to one person in charge of such a mission with full funding, with no restrictions on him whether bureaucratic or otherwise. The only limits will be certain achievements which must come within a certain time-frame. This will cut across a number of Ministries where we find a lot of hassles and we find our projects getting stalled because the interaction is not smooth enough. We have already decided on this particular mission and a number of other missions.

This is an area where you will find that tremendous energy has to be put in and we are looking forward to inputs from all of you. We have made tremendous progress with wheat, some with rice, pulses. But unfortunately, we are falling behind. Output has stagnated. This is affecting the nutritional intake of our people, specially the poorer people in the arid and semi-arid areas. We need a thrust to develop better productivity in these areas as well, standardised procedures, stable remunerative yields and the best irrigation that we can do.

Perhaps the one key factor for better agricultural productivity is land reforms. This is an area where a lot has been talked about, a lot of work has been done in some areas, but by and large it has fallen by the wayside. We are committed to tackle this problem and see that land reforms do take place and take place effectively. We are now studying what has happened in the past and soon we will be coming out with a programme which we will implement, hopefully fast.

One other difficult area is that of the environment. When we talk of better productivity in the fields, it is related very much to what is happening with the whole environment. It is not just a question of the amount of forest we have which determines the amount of moisture that is available, but also in the type of pollutants that are thrown into the atmosphere, into water, into land, which affect the health of the crop, not to speak of the health of people. We need a major thrust and we will be coming out soon with certain laws which, we hope, will make it easier to preserve the ecological and environmental balance.

The challenge in front of you is formidable. Agriculture is the vanguard of our economy, and it must be the basic thrust area for our development, and research is the core of agriculture. The challenge that you face is tremendous. But just as you rose to the challenge when India was going through difficulties in the sixties, I am confident that you will rise to this challenge today and deliver a new agriculture for India, more productive, more efficient, bringing more prosperity to every farmer.

Lastly, let me congratulate the ICAR and the IARI. Let me congratulate all the people who received degrees and doctorates, especially the prize-winners. We look forward to your contribution in turning India into a land of plenty." □

New Directions for Commonwealth Students Mobility

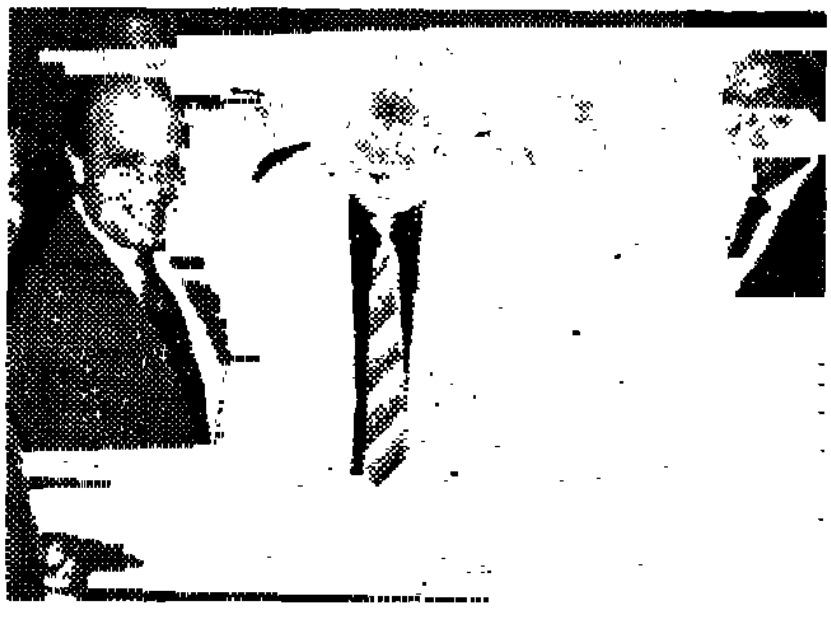
A 5-day Experts' Meeting on New Directions for Commonwealth Students Mobility was held in New Delhi from 27th to 31st January, 1986. Dr. Madhuri R. Shah, the then Chairman of the University Grants Commission, who inaugurated the meeting, deplored the steady decline in Commonwealth students mobility and educational interchange. She attributed it to the difficulties faced by students from developing Commonwealth countries in securing access to their preferred choices of facilities and courses in Commonwealth countries. An increasing number of Commonwealth students were therefore going for studies in non-Commonwealth countries like France, Germany, Japan, USA and USSR. She called upon the Commonwealth developed countries to take steps to check the decline in Commonwealth students mobility and educational interchange.

The Heads of Commonwealth countries at their meeting in Bahamas in October, 1985 had reviewed the issue of Commonwealth students mobility and expressed its concern at the steady decline in students flows. The Experts' Meeting was organised to explore in depth specific innovative measures that could be implemented at commonwealth, regional and national levels to help expand and diversify the volume of commonwealth student flows and educational interchange. It was also expected to stimulate south-south higher education cooperation and exchange of students. Student mobility was considered a part of inter-related set of components contributing to educational cooperation, interchange and realisation of the international character of higher educational institutions. It was therefore felt that student mobility was not only in the interest of dispatching country but also met the ever changing needs of development and improving sources of knowledge. Background papers were discussed on the issues relating to policy and priorities to encourage the mobility, enhance South-South, North-South flows, third country training, fellowship and training programmes of Commonwealth Secretariat, Staff Development in the Commonwealth, Centres of Excellence as poles of attraction in the Commonwealth South, Split-site courses, Accreditation, Credit transfer, institutional linkages, mixed-mode study with some work being done in home country and other work on a distant campus, brain-drain and its implications for the Commonwealth South.

Panel Discussion on "India as a Host Country" was organised during the working sessions, with representatives from Ministry of Human Resource Development (HRD), Association of Indian Universities (AIU) and Indian Council for Cultural Relations (ICCR). It was noted that AIU was making concerted efforts to produce information literature for foreign students intending to come to India and to facilitate matters regarding equivalence and recognition of qualifications. The report on 'Indian Study on Student Mobility, indicated that India continues to be a leading host country for foreign students in higher education. The report dealt with various aspects influencing student mobility in Indian context.

The lead paper by Sir Roy Marshall, Chairman of the Standing Committee on Student Mobility, outlined that Commonwealth student mobility had declined since 1980 when Britain had imposed full cost fee for overseas students. India, he noted, despite her limited resources and tremendous pressure from home students for places in tertiary institutions was the only country in the Commonwealth that did not charge differential fees between the home and foreign students. Australia also propose to levy full cost charges for those overseas students which do not come within quota eligible for lower charges.

About 40 experts from Australia, Bangladesh, Britain, Canada, Hong Kong, India Jamaica, Malaysia, Mauritius, New Zealand, Papua New Guinea, Singapore and Sri Lanka participated in the meeting that was organised by the Commonwealth Secretariat and the Canadian Bureau of International Education in collaboration with University Grants Commission of India.



Sir Roy Marshall, Chairman of the Standing Committee on Student Mobility, with Prof. N.M. Swami, Director, IIT, Delhi, Shri Anjni Kumar, Jt. Secretary, AIU and Dr. Jagdish Narain, Secretary, AIU.

G.B. Pant University of Agriculture & Technology

Pantnagar 263145 (District Nainital) U.P., India.

ADMISSION NOTICE

A competitive Entrance Examination for admission to the First year of the following Bachelor's, Master's, and Ph.D. degree programmes will be held on Sunday the 4th May, 1986 from 10 A.M. at AGRA, ALLAHABAD, DELHI, HYDERABAD, LUCKNOW, PANTNAGAR, ROORKEE, and VARANASI centres.

A--Bachelor's Degree Programmes	Minimum Eligibility Qualifications
1. B.Sc. Ag. & A.H.	Intermediate with Agriculture/Mathematics/Biology from U.P. Board, Allahabad, or equivalent Examination with at least second division in High School and Intermediate Examinations.
2. Bachelor of Fisheries Science	-do-
3. Bachelor of Science (Forestry)	-do-
4. B.V.Sc. & A.H.	Intermediate with Biology/Agriculture from U.P. Board, Allahabad, or equivalent examination with at least second division in High School and Intermediate Examinations.
5. B.Sc. Home Science (*Girls only*)	*Intermediate with Science/Agriculture from U.P. Board, Allahabad,* or equivalent examination with at least second division in High School and Intermediate Examinations.

NOTE : Candidates appearing in the above Boards' examinations in 1986 are also eligible to appear in the entrance examination provided their results are declared by 5th July 1986. Otherwise they will stand disqualified.

Admissions to B. Tech. programme in Civil, Electrical, Mechanical, Agricultural Electronics & Communication, Production, and Computer Engineering branches of this University will be made through a joint entrance examination to be conducted by the Coordinator, Admission Committee, Kamla Nehru Institute of Technology, Sultanpur, U.P. from whom the application forms and Information Brochures can be obtained by intending candidates.

MAXIMUM AGE LIMIT : 22 years on 30th November 1986 (Three years relaxation for candidates belonging to Scheduled Castes/Scheduled Tribes/Backward Classes).

B—Master's Programme

SUBJECTS : Plant Breeding-20, Point Pathology-10, Horticulture-10, Agronomy-20, Soil Science-20, Entomology-12, Agricultural Economics-12, Rural Banking & Agricultural Economics-10, Animal Breeding-10, Dairy Husbandry-5, Poultry Husbandry-5, Animal Nutrition-10, Food Technology-10, Agricultural Communication & Extension-10, Plant Physiology-6, Microbiology-6, Biochemistry-8, Environmental Science-6, Agricultural Statistics-5, Physics-8, Mathematics-6, Agricultural Chemicals-4, Vety. Bacteriology-3, Vety. Pathology-4, Vety. Pharmacology-2, Vety. Anatomy-4, Vety. Hygiene & Public Health-3, Vety. Parasitology-4, Vety. Physiology-4, Vety. Surgery-6, Vety. Medicine-4, Vety. Gynaecology & Obstetrics-4. **Home Science :** Foods & Nutrition-8, Clothing & Textiles-4. **Civil Engineering :** Structural Engg-10, Hydraulic Engg-10, Soil Mechanics & Foundation Engg-5. **Electrical Engineering:** Electrical Energy Systems-5. **Mechanical Engineering :** Design & Production Engg-5, Thermal Sciences-7. **Agricultural Engineering :** Process & Food Engineering-10, Irrigation & Drainage Engineering-10, Farm Machinery & Power Engg-10, Soil & Water Conservation Engg-6.

Eligibility Qualifications : Bachelor's degree conforming to the relevant subject-group with First division or an equivalent OGPA from a recognized University and 33% marks in the Entrance Examination separately in (1) Aptitude Test and (2) Subject Matter Test/Skill Test. Candidates with less than 2nd division in earlier academic career are not eligible. For details, please see Information Brochure.

NOTE : Those who are appearing in the Bachelor's degree examination of different Universities in India can also appear in the above entrance examination, provided that their results are positively declared by 5th July 1986 for the purposes of admission in First Semester 1986-87. Otherwise they will be considered for admission in the Second Semester 1986-87 only starting in January 1987, subject to availability of seats and merit position, and their degree examination results being declared positively by 15th Dec. 1986.

C—Ph.D. Programme

SUBJECTS: Plant Breeding-6, Plant Pathology-8, Soil Science-8, Agronomy-10, Animal Breeding-3, Animal Nutrition-2, Animal Physiology-2, Horticulture-4, Agril. Economics-6, Entomology-6, Plant Physiology-2, Food Science & Technology-4, Biochemistry-2, Microbiology-2, Vety. Anatomy-2, Vety. Pathology-2, Vety. Parasitology-2, Vety. Microbiology & Public Health-4, Vety. Medicine-2, Vety. Pharmacology-2, Vety. Surgery & Radiology-3, Physics-4, Civil Engineering-2, Electrical Engineering-2, **Agricultural Engineering :** Process & Food Engineering-5, Farm Machinery & Power Engineering-2, Irrigation & Drainage Engineering-2, Soil & Water Conservation Engineering-2, Mech. Engg-2.

Eligibility Qualifications : Master's degree conforming to the relevant subject in First division or an OGPA of 4.00 out of 5.00 from a recognised University, and 50% marks in the Subject Matter Test of the Entrance Examination. Candidates with less than 2nd division in their earlier record are not eligible. For details, please see Information Brochure.

NOTE : The candidates who are appearing in the Master's degree examinations of different Universities in India can also appear in the above entrance examination provided that their results are positively declared by 15th December 1986. The selected candidates for Ph.D. programme will be required to join the University in the second Semester 1986-87.

Separate provision exists for the Junior/Senior Fellowship Holders of the ICAR/CSIR/UGC, provided such candidates qualify in the Entrance Examination and the fact of having been selected for the Fellowship is intimated at least a week before the date of Entrance Examination.

In-service candidates sponsored by the ICAR/Govt. of India/Development Departments of State Governments/other Indian Universities/Staff of G.B. Pant University of Agriculture & Technology, Pantnagar will be considered under 'Sponsored' Category and will not be required to appear in the entrance Examination.

Printed Application Forms prescribed separately for Undergraduate, Master's and Ph.D. programmes and costing Rs. 10.00 each with Information Brochure, can be obtained on request from the Registrar (Admissions), by sending an 'ACCOUNT PAYEE' Bank Draft for Rs. 10.00 in favour of G.B. Pant University of Agriculture & Technology, on State Bank of India, Pantnagar Branch (Code No. 1133), or United Commercial Bank, Pantnagar Branch, along with a self-addressed envelope of 10" x 7" size bearing postage stamps of Rs 3.00 by Unregistered Parcel, or may be obtained on cash payment at the Counter. Cheques/Money Orders/Postal Orders shall not be accepted.

The programme for which the Application Form is required must be written in BOLD Letters on the self-addressed envelope.

LAST DATE FOR RECEIPT OF APPLICATIONS : Upto **20th March 1986** till 5.30 P.M. with fees of Rs. 50.00 (Rupees Fifty only) for all Centres, and from **March 21 to April 4, 1986** till 5.30 P.M. with a late fee of Rs. 50.00 more in addition to the prescribed fee of Rs. 50.00 i.e. with Rs. 100.00 in all, for Pantnagar Centre only.

NOTE : In the B.Sc. (Forestry) programme, First Year courses for 1986 Batch of students shall be conducted at the College of Agriculture, Pantnagar, and in subsequent years, the programme shall run at Ranichauri.

Admissions to M.Tech. programme in (1) Design & Production Engineering, (2) Thermal Sciences, (3) Electrical Energy Systems; and (4) Soil Mechanics & Foundation Engineering, shall be made only if the number of candidates admitted is at least 5 in each of these programmes.

O.S. Misra
REGISTRAR

INDIAN STATISTICAL INSTITUTE

ADMISSION NOTICE 1

Session : 1986-87

Applications are invited for the following courses/fellowships for which duration, values of monthly stipend/fellowship and eligibility conditions are briefly described below. Further details and other conditions are available in the prospectus. Selection of candidates is based on academic record, written tests and interviews.

1.1 Bachelor of Statistics (Hons.) : *Duration :* 3 years; *Stipend:* Rs. 100; *Eligibility:* Successful completion of 10+2 years of secondary education (or equivalent thereof) with Mathematics and English.

1.2 Master of Statistics : *Duration:* 2 years; *Stipend:* Rs. 125; *Eligibility:* 3-year Bachelor's Degree with Statistics and Mathematics as full subjects or equivalent qualification, obtained after twelve years of secondary education. Those without Statistics, but having outstanding mathematical ability, may also be considered. Holders of Statistician's Diploma/Senior Diploma of ISI are eligible for admission to the second year of the course.

The National Board of Higher Mathematics offers one scholarship of value Rs. 400 per month, for an outstanding First year student of the Master of Statistics course of the Institute, for two years.

1.3 Master of Technology in Computer Science : *Duration:* 2 years; *Stipend:* Rs. 1000; *Eligibility:* Master's Degree in a relevant subject or Bachelor's degree in Engineering Technology or equivalent qualification and knowledge of relevant topics of Physics/Mathematics.

1.4 Research Courses leading to Registration for the Ph.D. Degree : *Fellowship :* Rs. 1000; *Eligibility:* A good Master's degree in Mathematics Statistics, or Mathematical Economics; or exceptionally outstanding mathematical maturity with B.A./B.Sc. Degree with Mathematics, Statistics or Economics as a main subject.

1.5 Post-Graduate Diploma Course in Statistical Quality Control and Operations Research : *Duration :* 15 months: *Stipend:* Rs. 1000: *Eligibility*: Bachelor's Degree in Engineering/Technology or Master's degree with Statistics or Mathematics up to graduate level or recognised research/other work in Statistics.

2. Junior Research Fellowships : *Fellowship:* Rs. 1000. Research areas and eligibility conditions are given below.

Group A : Research in several areas of Computer Science which include Analysis of Algorithms, Artificial Intelligence, Computer Communication Net-Work, Digital Communication, Fault Tolerance, Image Analysis, Parallel Algorithms, Pattern Recognition, Testable Design, VLSI Architecture. *Eligibility* : (i) M.Sc. or equivalent degree in Physics Mathematics Statistics *or* (ii) B.E. or equivalent degree or M.E. or equivalent degree in Electronics/Computer Science/Electrical Engineering.

Group B : Dynamical Meteorology, Hydrodynamic Stability, Statistical Theory of Turbulence, Viscous Flow. *Eligibility*: (i) M.Sc. *or* equivalent degree in Physics Mathematics Statistics or (ii) B.E. or equivalent degree in Mechanical Engineering.

Group C : Foundation of Quantum Mechanics, Nuclear and Particle Physics, Super-symmetry, Cosmic Ray Physics and Astrophysical Plasma. *Eligibility* : (i) M.Sc. or equivalent degree in Physics/Mathematics Statistics preferably with Physics or Mathematics at the graduate level.

Group D : Chemistry. *Eligibility* : First or high second class Master's Degree in Chemistry with specialization in Physical Chemistry, or Agricultural Chemistry or Soil Science.

Group E : Biomedical Engineering/Medical Physics. *Eligibility* : M.Sc. in Physics with Biophysics/Medical Physics *or* in Physiology with Biophysics.

Group F : Biometry. *Eligibility* : A good Master's Degree in Biochemistry or Physiology preferably with some experience in doing immunological work related to catabolic diseases.

All courses/fellowships are offered in Calcutta. In addition, courses **1.2** and **1.4** are offered in Delhi and course **1.4** in Bangalore. The course **1.2** may also be offered in Bangalore.

Besides stipend/fellowship there is also a suitable annual book allowance. Hostel facilities are available. *Candidates who have completed or are due to complete the qualifying examinations before* **1 July 1986** *may also apply*. This may be relaxed by the Institute in case of candidates with outstanding academic record and performance in the selection tests and interviews. Selection tests for the courses/fellowships will be conducted at a number of centres. Candidates should satisfy themselves that they are eligible for admission to the course or for the award of the fellowship for which they apply. If at any stage it is found that a candidate does not satisfy the eligibility conditions or the information furnished in the application is incorrect, the application will be cancelled. Prospectus and application form can be obtained from the **Dean of Studies, Indian Statistical Institute, 203 Barrackpore Trunk Road, Calcutta 700 035**, by paying an amount of Rs. 10/- by cash (between 10.30 a.m. and 2.00 p.m. on working days between Monday to Friday) or by crossed postal order/bank draft payable at Calcutta in favour of **'Indian Statistical Institute'**. Postal orders must contain the name and address (in block letters) of the sender. Money orders and cheques will not be accepted.

Last date for receiving requests for application form	:	**17 March 1986**
Last date for receiving completed application form	:	**31 March 1986**
Date of selection tests	:	**SUNDAY, 18 May 1986**
Tentative dates of interviews	:	**23 June—4 July 1986**

Karnataka Regional Engineering College, Surathkal (D.K. Dist.) P.O. Shrinivasnagar-574157

STAFF RECRUITMENT

Applications in the prescribed form are invited for the post of Lecturer in the Department of Chemical Engineering so as to reach the Principal not later than 12-3-1986. The total salary inclusive of allowances in the minimum of the grade Rs. 1,611-50 in the time scale of pay of Rs. 700-40-1100-50-1600.

Higher start in pay will be considered in deserving cases. Qualification for the post of Lecturer will be as prescribed by U.G.C./A.I.C.T.E. If candidates with Post-graduate qualifications are not available or not found suitable for the post of Lecturer, first class Engineering Graduates will be considered for appointment as Lecturer.

The specialisation required for the post is Thermodynamics Bio-Chemical Engineering/Microprocessor Application/Environmental Engineering.

Further details concerning qualifications etc. will be supplied along with the application form.

Application form and details of prescribed qualifications and other particulars can be obtained by sending a crossed Indian Postal Order for Rs. 2/- payable to the Principal of the College at Srinivasnagar Post Office along with a self-addressed envelope of size 25 x 10 cm. affixed with postage of Re. 1.30.

T. Ramchandran
PRINCIPAL

Two New Programmes at JNU

The Jawaharlal Nehru University proposes to introduce two new programmes of study beginning from the ensuing academic year. These are (a) M.Tech (Computer Science & Technology) and (b) 5-year integrated M.A. Programme in Modern Arabic. Admissions to both these programmes will be through an All-India Entrance Examination scheduled to be held in May, 1986.

The M.Tech. (Computer Science & Technology) being introduced in the School of Computer and Systems Sciences will be open to candidates who have obtained Master's degree in Mathematics or Statistics or Operational Research or in any branch of Science or Bachelor's degree in Technology in any branch of Engineering.

The programme is designed to impart advanced knowledge in the field of Computer Science & Technology through instructions, seminars and project work. The duration of the programme will be three semesters. The first two semesters will be allotted to course work and the third for a dissertation. The candidates who successfully complete the M.Tech. programme will be eligible for registration to Ph.D. programme in Computer Systems and Sciences.

The Five-year integrated M.A. programme in Modern Arabic is being introduced in the Centre of African & Asian Languages of the School of Languages of the University. It has been designed to train translators and interpretors from other languages into Arabic and vice-versa as also for teaching the language.

The programme will be open to candidates who have passed the Senior School Certificate (10+2) or equivalent examination. Although the students will be enrolled for five-year integrated programme, they will also be eligible for the award of Bachelor's degree after successful completion of three years' course work.

Research methodology workshop at Manipur University

A ten-day Research Methodology Workshop for Social Sciences, sponsored by the Indian Council for Social Science Research, was organised by the Department of Economics from 12th January to 21st January 1986.

Prof. B.K. Roy Burman, Centre for Social Development, New Delhi, Dr. A.P. Sinha, Department of Anthropology, North Eastern Hill University, Prof. H. Nabakishore Singh, Dr. M. Iboton Singh, P.C. Dey all from the Department of Economics, Manipur University, Dr. Ch. Budhi Singh Department of Anthropology, Manipur University and Dr. Lokendrajit Singh, Department of Philosophy, D.M. College of Arts & Commerce, Manipur were the resource persons for the workshop that was attended by college lecturers and research scholars from Manipur University and North Eastern Hill University and the Research Officer of the Board of Secondary Education, Manipur.

Prof. H. Nabakishore Singh spoke on the "Scientific Method of Investigation, Observation Questionnaire and Case Study" while Dr. A.P. Sinha dealt extensively with the methodology of Social Science Research.

Prof. Roy Burman discussed the problems of research in tribal areas. He emphasised the need for reinterpreting standard concepts vis-a-vis tribal economics. Dr. Ch. Budhi Singh talked of "Aspects of economic anthropology" and discussed in detail the social factors of economic development at Thanga Village of Manipur and the marketing organisation of the village. Dr. S. Lokendrajit Singh spoke on aspects of Marxian analysis, discussing in detail the structural necessity of the Marxist model, Marx's concept of sense-activity and Marx's theory of consciousness. Dr. M. Iboton Singh discussed the relevance of Keynesian economic analysis for developing countries re-examining the suitability of Keynesian constructs for such economies. P.C. Dey dwelt on techniques for analysing regional economic problems.

Indo-Soviet bilateral symposium at Poona University

The Department of Physics of the Poona University organised a bilateral symposium on electronic materials recently. The symposium held under the auspices of the Indian National Science Academy and the Soviet Academy of Sciences was inaugurated by Prof. E.C. Subbarao, Director, Tata Research and Design Centres, Pune. A 10-member Russian delegation headed by Prof. E.A. Kuznetsov of the Institute of Inorganic Chemistry, Novosibirsk and over 20 Indian scientists from various universities, IITs, National Laboratories and Industries participated in the symposium.

The topics discussed at the symposium included synthesis, characterisation and study of silicon based electronic materials as well as other materials used in semiconductor devices, the process induced interaction in semiconductor devices and modification of semiconducting structure by ion and laser beams, process of submicron lithography,

use of radiation and optical methods for investigating surface phenomena as well as growth and characterisation of polycrystalline semiconductor etc.

Computer training centre at Hyderabad

The Andhra Pradesh Governor Kumud Ben Joshi, inaugurated a Computer Training Centre at the Postgraduate and Research Complex of the Dakshina Bharat Hindi Prachar Sabha at Hyderabad. The Centre will have two B.B.C. Micro-Computers (attached with Devanagri script facilities) and one Word Processor (Lipi, attached with Hindi-Telugu Printing facility)

Commending the initiative by the Sabha the Governor in her address emphasised that if the knowledge of computer science is to reach the common man it should be developed through Hindi and regional languages. Mr. V. Anjaneya Sarma, Registrar of the Postgraduate and Research Complex, who welcomed the chief guest, said that the facilities available at the Centre would help the trainees in scientific and systematic research in language and language teaching.

The complex also proposes to start a Diploma Course in Computer Science and Programming in Indian Languages.

Indo-US seminar on Longwall Systems for Thick Mining

A three-day Indo-US Seminar on Longwall Systems for Thick Seam Mining was held at the Indian School of Mines, Dhanbad recently. Shri G.L. Tandon, Chairman, Coal India Limited inaugurated the seminar and Prof. G.S. Marwaha, Director ISM, presided. Besides an 8-member US delegation, over 130 mining engineers from universities, research stations and Coal Industry participated in the seminar.

Sponsored jointly by the National Science Foundation, USA and the Department of Science and Technology, the seminar discussed in detail major problem areas in Longwall thick seam mining and identified the preferred directions of technology. In all 18 papers were presented and discussed in which the participants shared their field and research experiences.

Grant for women's studies to Kerala University

The University Grants Commission has offered assistance to the tune of Rs. 50,000 to the University of Kerala for developing curriculum in Women's Studies at undergraduate level. Kerala University is one of the seven Universities identified by the Standing Committee on Women's Studies of the U.G.C. for starting Women's studies centres. The centres will be fully supported by the U.G.C. and will have 2 or 3 senior level core staff and liberal grants for library, equipment and infrastructure support.

New research projects for Kerala University

Three research projects have been sanctioned for the University of Kerala recently. The Department of Science and Technology, Government of India, has sanctioned an assistance of Rs. 8.093 lakhs for the project "Signalling Pheromones of Rodent Pests of Kerala" to be taken up by Dept. of Zoology

U.G.C. has sanctioned a grant of Rs. 61,600 for the project: "Kerala's Contribution to Indian Literature in English—a Study in source and influence" will be implemented in the Institute of English, Kerala University.

University Grants Commission has also sanctioned a grant of Rs. 10,000 for the project "Role of Communication Variables in Family Planning Adoption" to be implemented in the Department of Journalism.

Training programmes at Gujarat Agricultural University

Dr. M.R. Patel, Vice-Chancellor, Gujarat Agricultural University inaugurated a two-week training programme at the N.M. College of Agriculture, Navsari. The programme was oriented to review the educational objectives, syllabus, preparation of lesson plan, internal evaluation types of question etc. and elicit suitable modifications.

A 2-day orientation programme in writing articles for farmers was organised for officers associated with research teaching and extension activities. Guest speakers from the Gujarat State Fertilizer Corporation and Gujarat Vidyapith guided the participants in effective writing and putting across the message in simple language. Participants appreciated the utility of such short-term programmes and felt that these be organised more frequently.

GNDU introduces B. Arch.

The Guru Nanak Dev University has decided to introduce Bachelor of Architecture Course from the academic session 1986-87.

The University has also decided to introduce Punjabi as a compulsory subject for all its examinations from the academic session 1986-87. This is in consonance with the policy of the State Govt. to encourage the official language of the State at all levels.

News from Agril. Varsities

KKV's "Nutan" mango harvester

Recognizing the need of proper hand tool for harvesting mango fruits, a manually operated harvester known as 'Nutan' has been designed and fabricated at the Department of Agricultural Engineering, Konkan Krishi Vidyapeeth, Dapoli. The harvester consists of a ring of 5 m.m. M.S. round with 30 cm diameter. Two blades of spring steel are mounted on a ring. They move against the spring mounted on their top. At the lower ends of the blades, metal wings are provided which are in turn supported on the ring. These wings help to guide the pedicel of the fruit towards the blades. The nylon net is tied to ring of the harvester to retain the harvested fruits. A pipe 15 cm in length is welded at the lower end of the ring in which a bamboo pole of desired length can be fitted.

A fruit to be harvested is taken in the ring and harvester is pulled. The pedicel of the fruit is guided by the wings in between the blades. In pulling action, the pedicel offers resistance which causes the movement of the blades against the tension of the spring and gets sheared. Immediately after shearing of the pedicel the blades move to their original position due to spring tension.

Special features of the 'Nutan' mango harvester are: (1) All fruits are harvested with pedicel of 8 to 10 cm in length; (2) No injury is caused either to the fruits or to the branches; and (3) Fruit is seperated by shearing the pedicel avoiding coiling and recoiling of the branch, which in turn avoids fruit drop.

The harvester is available at the Department of Agricultural Engineering of the University at the cost of Rs. 30 only.

HAU symposium on biological nitrogen fixation research

The Haryana Agricultural University, in collaboration with the Department of Atomic Energy, organised a three-day National Symposium on current status of Biological Nitrogen Fixation Research. Inaugurating the Symposium Dr. S. Ramachandran, Adviser, National Bio-technology Board, observed that since the foodgrain requirement of India's increasing population by 2000 A.D. will be 240 million tonnes as compared to 150 million tonnes as at present, the gap in the availability of nitrogen fertilizer would have to be filled through nitrogen fixation. Concerted efforts must be made to make the process of biological nitrogen fixation more efficient and broad based. Pointing out the major research areas, Dr. Ramachandran said that super-rhizobia strains be introduced into the soil so that they could compete with indigenous rhizobial population.

Mr. L.D. Kataria, Vice-Chancellor, HAU, presided over the function. He pointed out that biological nitrogen fixation has emerged as one of the highest priority areas of research. Besides efforts to increase the efficiency of this process, an appropriate technology for its full exploitation in farmers' fields will have to be developed and refined. The Vice-Chancellor said that the HAU has taken a lead in producing Rhizobium cultures for farmers in this part of the country.

More than 60 delegates from various agricultural institutes of the country participated in the symposium.

AIU News

Inter-University Youth Festivals 1986

"Thou hast made known to me friends when
I know not
Thou hast given me seats in homes not my own
Thou hast made the distant near and made
brother of the stranger....
When one knows thee then alien there
is none....."

—Tagore

The words of the poet are evocative for those who yearn to share cultural values, friendship, fraternity, peace, development and love. Indian History is replete with traditions of interchange and importance of cultural communication.

To keep the torch aflame, the Association of Indian Universities (AIU) launched a cultural bonanza in the year 1985, and organised a series of four Inter-University Zonal Youth Festivals and the NAMYFEST '85. The festivals intended to

integrate the students of various universities under one banner. This also set a new cultural order that brought forth youthful fragrance, mingled with the sweet aroma of love and friendship. The youth festivals also marked the International Youth Year (IYY); and the Diamond Jubilee Celebrations of AIU.

The Year 1986 once again brings happy tidings to the university youth as AIU prepares to hold the forthcoming Youth Festivals. The Youth Festivals are indeed a tribute to the youth, who symbolise courage, initiative, energy and activity.

The youth festivals serve manifold purposes and have a significant role in leading the nation towards peace, progress and prosperity. They create awareness among the youth of our cultural heritage. These events inculcate a spirit of adventure, cooperation, and create excellence in the fields of dance, music, theatre, literary activities and fine arts. These occasions further foster the dynamism of youth and enable it to contribute constructively to the achievement of social and national goals. These cultural meets also provide opportunity to the youth to have healthy interaction with each other especially in the domain of art and culture. This enhances their capacity for aesthetic appreciation and refinement. The events, that are a part of the festivals such as music, dance, theatre, etc. are all manifestation of that refinement and culture. But the most significant contribution these Youth Festivals make in the present restive times is to channelise the energies of youth in constructive pursuits.

As in the last year, the programme-content of the Youth Festivals will be Music, Dance, Theatre, Literary Activities and Fine Arts. The sub-events from amongst these five main events have been carefully selected. The venues of the festivals are under consideration and will be announced in due course.

As a prelude to the National Youth Festival, four Inter-University Zonal Youth Festivals will be held. The outstanding participants from the Zonal Youth Festivals will be invited to participate in the National Youth Festival. It is hoped that these festivals would provide a forum for the budding artists to display their artistic excellence and help establish bonds of friendship, fellowship, brotherhood, harmony, integration and a new cultural order.

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
February 24-28, 1986	Short-Term course on Application of Remote Sensing to Mineral Exploration	To acquaint the participants with the techniques of Image Processing and Digital Analysis of Landsat Data.	Centre of Studies in Resources Engineering, IIT, Bombay	Dr. T.V. Pavate, Chief Project Engineer, Remote Sensing Division, CSRE, IIT, Bombay
February 24-28, 1986	International Symposium on the Role of Universities in Wildlife Education and Research	To recommend the start of Life Science Teaching and Research on modern scientific lines in the Indian Universities	Department of Zoology, Aligarh Muslim University, Aligarh	Dr. A. H. Musavi, Director
March 9-11, 1986	All India Seminar on Technical Education in India	(i) To provide a forum for discussing the present status of technical education in India ; (ii) To identify the current problems and suggest ways and means for overcoming the same.	The Institution of Engineers (India) & the Institute of Engg. & Technology, Lucknow	Dr. Suresh Chandra, Director, Institute of Engg. & Tech., Lucknow
May 8-10, 1986	National Seminar on Interaction between research in Universities and Industries	To identify the industries where University research can play an important role and find out ways and means of active interaction between research in Universities and industries	University of Delhi, Delhi	Dr. Yogesh Kumar, Department of Physics and Astrophysics, University of Delhi, Delhi
May 19-June 1, 1986	Summer School on Crystal Growth and Characterisation of Advanced Materials for Solid State Applications	An orientation course in (i) Experimental Crystal Growth; (ii) Theories of Crystal Growth; (iii) Nucleation; and (iv) Characterisation	Crystal Growth Centre, Anna University, Madras	Dr. P. Ramasamy, Crystal Growth Centre, Anna University, Madras

News from Abroad

Kangaroos efficient energy savers

Researchers have found that Australia's kangaroos have such economy of movement that makers of artificial limbs and running shoes could learn something from them.

Scientists at Flinders University, Adelaide, have discovered that each time a kangaroo hops it gets back 90 per cent of the energy it used for that hop for use in the next one.

Unlike other animals, which breath harder and have to use more energy the faster they move, the kangaroo's energy consumption varies little with speed.

Dr. Russel Baudinette, Associate Professor of Biological Sciences, said a kangaroo merely lengthened its hop when it wanted to cover ground quickly. This lessened the frequency of contact with the ground and therefore the retarding effect of friction.

A kangaroo has a spring arrangement of muscles and tendons, which stores energy and releases it—like a "pogo stick"— which it combines with a highly efficient respiratory system.

Each time a kangaroo hops it takes a breath, aided by a piston effect provided by its viscera, Dr. Baudinette said. As the animal leaves the ground, its liver and some of its other viscera drop down, acting exactly like a piston, allowing the volume of air in the chest wall to increase as the pressure decreases.

Air rushes in while the animal is in flight. The lungs are then assisted in their expulsion of air as viscera is pushed up into the chest cavity when the kangaroo thuds back to earth. Thus locomotion muscles become also respiratory muscles, a feature which appears unique in these mammals.

Increasing the efficiency of the system is the fact that, unlike humans for example a kangaroo's diaphragm is composed mainly of tendon. There are no large muscles in the area.

What this means is that rather than contracting various sets of muscles as we do when we move—those to do the actual moving and those to work our breathing (an energy-expensive system)—the kangaroo instead has a most efficient arrangement where, in the main, motion itself generates ventilation.

Add to this the way energy is stored between hops in a kangaroo's muscles and tendons, especially tendons, and you have an animal using on a per mass basis a lot less oxygen and therefore a lot less than humans.

He said that, using the best available running shoes and track surface, scientists at Harvard University could record only about 60 per cent return of energy with each stride, compared with a kangaroo's 90 per cent.

Why people stop smoking

A study at the University of Sydney into why people stop smoking has received a Federal Government grant of $35,000.

Dr John Pierce, of the School of Public Health and Tropical Medicine at the University of Sydney, who heads the project said they would analyse data from the Quit-for-Life anti-smoking campaign in Sydney. It aimed to produce more comprehensive information from the survey on barriers to change of habit and to identify predictors of change.

The Minister for Health, Dr. Neal Blewett observed that research projects on smoking cessation are important in health promotion and improvement of health in our community. It is most important that campaign like Quit-for-Life are thoroughly evaluated to ensure that the time, effort and money spent on them are not wasted. This study should answer a number of important questions which will help in the conduct of future anti-smoking campaigns.

New communication network between the universities

An ultra rapid data transmission network between the research centres of Paris-Sud University and Montpellier University (700 km) was inaugurated at Orsay by Mr. Jean-Pierre Chevenement, the French Education Minister.

This network is the first of its kind in Europe. A live video-conference from National University Computer Centre at Montpellier enabled to follow two experiments.

Equivalent to 10,000 pages of a book in the form of data file was transmitted from the Computer Centre of Orsay to that of Montpellier in less than 3 seconds. The same operation otherwise would take about 8 to 10 hours. This was obtained by using the geostationary satellite Telecom I, as a relay. This is a step ahead in the utilisation of this satellite whose total potential is far from being fully exploited.

Transmission of information at high speed is particularly of interest to the researchers who sometimes need the numerical results of an experiment being carried out at a distant research centre. This system can also be used for CAC (Computer Aided Command) and for assisting the informatic systems. For M. Coudanne, President of the Paris-Sud University, "This is for establishing the permanent link between the French university research centres with informatic resources".

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month' while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research scholars and students of education are welcome to use these resources. The Library is open from 9-30 a.m. to 5-30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

BIOLOGICAL SCIENCES

Anthropology

1. Singh, Pratap Kumar. *Palaeoanthropology of Central Orissa.* Utkal U, Bhubaneswar.

Biochemistry

1. Fatehpuria, Anuradha. *Studies on the cell surface of Vibrio Cholerae.* U Calcutta.

2. Datta, Kajal. *Studies on the production of chloramphenicol acetyl transferase by bacteria isolated from soil.* U Calcutta.

3. Malhar, Rekha. *Regulation of enzymes of nitrogen assimilation pathway by light and some carbon sources.* Devi Ahilya, Indore.

Botany

1. Dadwal, Vasudev Singh. *Studies on the agaric flora of local forest with emphasis on cultivation of some edible forms.* RDV, Jabalpur.

2. Gayakwad, Bhaurao Bhimraoji. *Contribution to the knowledge of Deccan intertrappean flora of Chhindwara and Betul Districts.* Nagpur U.

3. Indiramma, P. *Physiology of tuberization in Cassava.* U Ker, Trivandrum.

4. Joshi, G.C. *A quantitative analysis of growth of certain introduced grasses as influenced by clipping.* Kum U, Nainital.

5. Kulkarni, Arun Haribhau. *Physiological studies in marine alga, Gracilaria Corticata J. Ag.* Shivaji U, Kolhapur.

6. Mehra, M.S. *Litter fall and nutrient return in certain forest ecosystems of Kumaun Himalaya.* Kum U, Nainital.

7. Narsing Rao, Y.B. *Morphology and embryology of various species of Portulaca.* OU, Hyderabad.

8. Pande, P.C. *Flora of Almora District.* Kum U, Nainital.

9. Pandey, Sadhana. *Studies on the fungal diseases of cucurbitaceous fruits with special reference to soft rots of snake gourd, Trichosanthis anguina L.* RDV, Jabalpur.

10. Pochaiah, Y. *Anatomical, chemical and taxonomical studies on Indian Trichodesma R. Br. with reference to pharmacognosy.* OU, Hyderabad.

11. Rajagopal, B.S. *Microbial metabolism of carbamate insecticides in rice soils.* Utkal U, Bhubaneswar.

12. Rao, P.B. *Regeneration of some trees of Western Kumaun Himalaya.* Kum U, Nainital.

13. Rajamani, H. *Epidermal studies in the oraer polemoniales.* OU, Hyderabad.

14. Sarate, Omprakash Shiodas. *Palynostratigraphical studies on some lower Gondwana Coals from Satpura Basin, M.P.* Nagpur U.

15. Sarma, Gajen Chandra. *Palynological survey of greater Gauhati with particular reference to airspora and plant taxonomy.* Gauhati U.

16. Shaikh, Habibulla. *Ecology of Gir Forest : Phytosociological study and net primary production relations of some important tree species in the Western Region.* Bhavnagar U.

17. Singh, L.P. *Biology and ecopathology of Rhizoctinia attacking seedlings of bhendi.* Vikram U, Ujjain.

18. Subramanyam, A. *Studies on morphology and biochemical activities of some thermophilic fungi.* Kum U, Nainital.

19. Tewari, S.D. *Studies on bryophytes of Kumaun Himalaya.* Kum U, Nainital.

20. Tilve, Daya Ajay. *Investigations in the lichens : Lichenised fungi of Karnatak State of India.* U Poona.

21. Toshniwal, Indu. *A study of phytase system in Cucurbita maxima (Pumpkin) cotyledons during germination.* U Roorkee.

22. Upadhyay, V.P. *Leaf litter decomposition in certain forest ecosystems of Kumaun Himalaya.* Kum U, Nainital.

Zoology

1. Agrawal, Abhilasha. *Effect of heavy metals steroid hormones and adrenal blocking agents on the ovarian activity of certain teleostean fishes.* Jiwaji U, Gwalior.

2. Bhagat, Hira Lal. *A histochemical study of the effect of certain insecticides on the alimentary canal of Dysdercus koenig* Fab. LNMU, Darbhanga.

3. Bhowmick, Ashok Kumar. *Role of light trap in surveillance and management of insect pests of forest trees of major economic importance.* RDV, Jabalpur.

4. Bisht, J.S. *Ecological studies on mound and carton nest building termites in a tropical Sal forest of Kumaun Himalaya.* Kum U, Nainital.

5. Dang, Hans Raj. *Studies on the biology of avian testis.* PAU, Ludhiana.

6. Ghosh, Kamalkanti. *Role of Anopheles annularis in transmitting malaria in rural West Bengal.* U Calcutta.

7. Gupta, Susheela. *Certain biochemical studies during development of bivoltinerace of silk worm, Bombay mori L.* Vikram U, Ujjain.

8. John, Zachariah T. *The mode of action of deccan filariasis with special reference to its effect on the metabolism of lipids.* U Ker, Trivandrum.

9. Khan, Shafquat Mohd. *Histomorphology and cytochemical studies on testis in some teleost.* Bhopal U.

10. Madhusoodanan Pillai, P. *Studies on Indian leptocephali.* U Ker, Trivandrum.

11. Misra, Shive Mangal. *Limnology of Hathaikheda reservoir with special reference to plankton production and fish culture.* Bhopal U.

12. Muraleedharan, V. *Some aspects of the biology of Entomobryid collembola.* U Ker, Trivandrum.

13. Ninder Kaur. *Comparative studies on sero-diagnosis and faecal examination in experimental schistosomiasis.* RDV, Jabalpur.

14. Patel, A.N. *Ecological studies on two cerithiid gastropods, Cerithium caeruleum Sowerby and Monliferus Kiener from Saurashtra West Coast of India.* Saur U, Rajkot.

15. Patel, Siddharth Krishnakant. *Faunastic survey of spiders from Bhavnagar District, Gujarat State.* Bhavnagar U.

16. Premjith, S. *Studies on the correlation between anatomical changes and biochemical composition of Tilapia mossambica during the various stages of growth and development.* U Ker, Trivandrum.

17. Premkumar, K. *Nutritive ecology of an allochthonous feeder, Rasbora daniconius Hamilton (Cyprinidae Teleostei).* U Ker, Trivandrum.

18. Rodrigues, Corneil. *Community structure of intertidal fauna at Dona Paula Beach, Goa, India.* U Poona.

19. Sharma, Kuldip Krishan. *Larval ecology of some fishes from Jammu and determination of limits of tolerance of early developmental stages of Puntius conchonius Ham to some environmental factors.* U Jammu.

20. Sharma, Madhurima. *Characterization of biras using lectins and isozymes as parameters.* Pb U, Chandigarh.

21. Sharma, Mahendra Nath. *Studies on the effects of some ndustrial waste effluents on certain organs of a teleost.* Devi Ahilya, Indore.

22. Sharma, Trilochan. *Haematological studies on some hill stream fishes.* Kum U, Nainital.

23. Somasekhar, T. *Some studies on the neurotrophic influences in atrophying frog muscles following sciatectomy.* Bangalore U.

24. Syamsunder Rao, P. *Studies on some aspects of histo-enzymological observations of Isoparorchis hypselobagri (Billet, 1898) Southwell, 1913 parasitising fresh water cat fish, Wallago attu Schneider.* OU, Hyderabad.

25. Vaidya, Sudhakar K. *Anatomical studies of Odontopus nigricornis Stal (Heteroptera : pyrrhocoridae).* U Poona.

Medical Sciences

1. Chowdhary, Shekhar Chandra. *Radiological estimation of age by study of epiphyseal union around knee and ankle joint area in population of Sagar.* HS Gour, Sagar.

2. George, Thomas. *Erythrocyte haemolysis and lipid peroxidation with reference to the function of vitamin E, vitamin A and synthetic antioxidants.* U Ker, Trivandrum.

3. Gupta, Devendra Kumar. *Dermatoglyphics, palmar creases and other genetic markers in leprosy.* RDV, Jabalpur.

4. Haidar, Mohammad Ali. *Studies on thyroid hormone receptors in the developing brain.* U Calcutta.

5. Shetty, M. Shakila. *A study of behavioural intervention in epileptics with inadequate response to drug therapy.* Bangalore U.

6. Udupa, Saraswathi L. *Proteinase inhibitors in millets and their action on human and bovine enzymes.* Bangalore U.

Agriculture

1. Balwinder Kaur. *Genetic analysis of seed size in relation to growth rhythm and production potential in pearl millet.* PAU, Ludhiana.

2. Bhagat, Ram Kumar. *Effect of lime and phosphatic fertilizers on lucerne and their residual effect on maize.* Birsa Agrl, Ranchi.

3. Bora, Pradip Chandra. *Comparative effect of preliminary cultivation and seedbed preparation on the performance of maize, Zea mays L and wheat, Triticum aestivum L. in rotation.* PAU, Ludhiana.

4. Manju Bala. *Antifungal compound(s) of groundnut seed coat and uridine turnover.* PAU, Ludhiana.

5. Mathur, Chandra Mohan. *Effect of some antitranspirants on two species of Brassica yielding mustard.* Jiwaji U, Gwalior.

6. Patil, Janardan Pandurang. *Effect of phosphorus and potassium fertilization on soil fertility, tissue indices, nutrient uptake, yield of sugarcane and quality of juice and jaggery.* MP Agrl, Rahuri.

7. Sachan, Ramesh Chandra. *A study of the effects of land treatments on moisture retention and surface runoff in cultivated plots under rainfed agriculture.* PAU, Ludhiana.

8. Sadan Lal. *Evaluation of hybrid tomato, Lycopersicon esculentum Mill under plateau condition.* Birsa Agrl, Ranchi.

9. Sharma, Darshan Lal. *Genetic characterisation of some wheat stocks resistant to leaf rust, Puccinia recondita.* PAU, Ludhiana.

10. Singh, M. Gojendra. *Mutagenic studies in rice, Oryza sativa L.* Birsa Agrl, Ranchi.

11. Sinha, Rajendra Prasad. *Studies on the bionomics and control of mustard aphid, Lipaphis erysimi Kalt, (Amphidae : Homoptera).* RAU, Samastipur.

12. Sudesh Kumar. *Excretion of DDT-analogues and HCH-isomers in buffalo milk after oral administration and dermal application.* PAU, Ludhiana.

13. Thakur, Karam Singh. *Weed and fertility management in transplanted rice through incorporation of organic wastes.* HP Krishi, Palampur.

14. Vinod Kumar. *Role of glucosinolates in host selection, development and multiplication of mustard aphid.* PAU, Ludhiana.

Veterinary Science

1. Capitan, Severino S. *Postpartum ovarian activity in buffaloes during summer.* PAU, Ludhiana.

2. Deokiouliyar, Upendra Kumar. *Studies on hernioplasty with biological and non-biological implants in bovine.* Birsa Agrl, Ranchi.

3. Mohammad Nooruddin. *Studies on dermatophytoses in buffaloes.* PAU, Ludhiana.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during January, 1986

EDUCATIONAL PHILOSOPHY

Gupta, Sunila. Value structure of higher education and the university teachers. *J Hr Edn (Delhi)*, 9(2), 1983, 254-9.

Parker, Franklin. Moral education-USA : Background and trends. *The Coll Bd Rev* (137), 1985, 10-15.

Price, Geoffrey. Universities today : Between the corporate state and the market. *Univ Q* 39(1), 1984/85, 43-58.

EDUCATIONAL PSYCHOLOGY

Baird, Leonard L. Do grades and tests predict adult accomplishment ? *Res Hr Edn* 23(1), 1985, 3-85.

Rossum, Erik Jan Van and others. Students' learning conceptions and their interpretation on significant educational concepts. *Hr Edn* 14(6), 1985, 617-41.

Seth, N.K. and others. A comparative study of anxiety level against graduate, post-graduate and Ph.D. students. *J Hr Edn (Delhi)* 9(2), 1983, 249-51.

Steed, David. Education and disruptive pupils : The myth of the orderly school. *Univ Q* 39(2), 1985, 167-75.

EDUCATIONAL SOCIOLOGY

Ahmad, Karuna Chanana. From secondary to higher education : Focus on women. *J Hr Edn (Delhi)*, 9(3), 1984, 349-62.

Muthamma, C.B. Cultural identity and educational objectives. *Mainstream* 24(16), Dec 21 1985, 29-30.

EDUCATIONAL PLANNING

Bhiday, M.R. How to meet challenges of education. *Mainstream* 24(20), Jan 18, 1986, 10-11.

Bhiday, M.R. How to meet challenges of education—II. *Mainstream* 24(21), Jan 26, 1986, 37-43.

Menon, M.G.K. Perspectives for the New Education Policy. *India International Centre Quarterly* 12(4), 1985, 423-29.

Theckedath, K.K. Challenge of education : An exercise in evasion. *Teachers' Movement* 6(2), 1985, 34-41.

EDUCATIONAL ADMINISTRATION

Cote, Lawrence S. The relative importance of presidential roles. *J Hr Edn (Ohio)* 56(6), 1985, 664-76.

Dunn, Delmer D. and others. The university president as pragmatist : An investigation of priorities. *Res Hr Edn* 23(1), 1985, 96-106.

Farnham, David. Staffing in higher education : The emerging agenda. *Hr Edn Rev* 18(1), 1985, 43-60.

Goldschmidt, Dietrich. The university as an institution : Present problems and future trends. *Hr Edn Europe* 9(4), 1984, 65-73.

Hossler, Don. Managing enrolments for institutional vitality. *Coll Bd Rev* (137), 1985, 26-9.

Sharma, R.D. and S. Kumar. Space allocation to academic department in a high rise building of an Australian educational institution. *Res Hr Edn* 23(1), 1985, 86-95.

TEACHING

Donald, Janet G. The state of research on university teaching effectiveness. *New Directions Teaching & Learning*. (23), 1985, 7-20.

Jackson, M.W. and Prosser, M.T. De-lecturing : A case study of the implementation of small group teaching. *Hr Edn* 14(6), 1985, 651-63.

Patted, G.M. College teaching description and analysis. *J Hr Edn* (Delhi) 9(3), 1984, 381-8.

EDUCATIONAL RESEARCH

Crawshaw, Bruce. Contract research, the university and the academic. *Hr Edn* 14(6), 1985, 665-82.

Sendov, Blagovest. The university and extra-university research. *Hr Edn Europe* 9(4), 1984, 23-6.

EDUCATIONAL TECHNOLOGY

Barker, Philip and Ravinder Singh. A practical introduction to authoring for computer-assisted instruction. Part 5 : PHILVAS. *British J Ednl Tech* 16(3), 1985, 218-36.

Menon, M.B. and Sahoo, P.K. Educational technology in higher education. *J Hr Edn* (Delhi) 9(3), 1984, 408-14.

Rais, Ahmed. INSAT-1B and higher education. *J Hr Edn* (Delhi) 9(3), 1984, 301-3.

ECONOMICS OF EDUCATION

Beck, Norman E. Financial aid today : An economic perspective. *The Coll Bd Rev* (137), 1985, 2-5, 29-30.

Doherty, Richard. Education and employment : What's gone wrong ? *International Rev Edn* 31(4), 1985, 465-7.

Furqan Qamar. Financial management : An imperative to the temples of higher learning. *J Hr Edn (Delhi)* 9(3), 1984, 403-7.

Muzammil, Mohd. Education and employment. *Mainstream* 24(20), Jan 18, 1986, 12.

Psacharopoulos, George. Returns to education : A further international update and implications. *J Human Resources* 20(4), 1985, 583-604.

EVALUATION

Bharat Bhushan. Interactional effect of length, style and handwriting on the marking of examiners at postgraduate stage : A study. *J Hr Edn (Delhi)*, 9(3), 1984, 392-5.

Dorans, Neil J and Kingston, Neal M. The effects of violations of unidimensionality on the estimation of item and ability parameters and on item response theory equating of the GRE verbal scale. *J Ednl Measurement* 22(4), 1985, 249-62.

Ewell, Peter. Assessment : What's it all about ? *Change* 17(6), 1985, 32-6.

Turnbull, William W. Are they learning anything in college ? *Change* 17(6), 1985, 22-30.

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MARATHWADA UNIVERSITY

AURANGABAD

Advertisement No. Estt/RO/5/86

Applications are invited in the prescribed form from candidates who fulfil the qualifications/conditions for the following post so as to reach the University Office on or before **March 11, 1986** :

(1) Co-Ordinator, College Development Council. One post.

Rs. 1500-60-1800-100-2000-125/2-2500.

Qualifications

(I) First Class or High Second Class at the Bachelor's and Master's degree and preferably Ph.D. degree as well, in any of the faculties of Arts, Social Science, Science, Commerce, Law, Engineering, Education and Management from any Statutory University in India.

(II) Working knowledge of Marathi essential.

Experience : Atleast 10 years teaching and/or administrative experience.

Age : For the above post the age of retirement is 60 years. The candidate should not be less than 40 years.

The appointment to the post will be initially for a period of three years, renewable for a further period of three years on satisfactory performance.

Applications in prescribed form duly completed in all respect, should be submitted alongwith certified true copies of the testimonials/documents necessarily. Applications with incomplete details and documents will not be attended to. Candidates already in service should apply through proper channel.

The prescribed application form can be had from the University Office by sending I.P.O. worth Rs. 3/- in the name of the Registrar, Marathwada University, Aurangabad with a self-addressed envelope of 23 x 10 cms bearing postal stamps worth Re. 1/- to cover postage.

The prescribed application forms are available at the publication unit of the University.

B. M. Patodekar
REGISTRAR

KENDRIYA HINDI SHIKSHAN MANDAL, AGRA

Advertisement No. 6/85-86

Applications are invited from Indian citizens for the posts of (1) **Professor (Two) (Applied Linguistics); (2) Reader (One) (Applied Linguistics) ; (3A) Lecturer (Seven) (Applied Linguistics); (3B) Lecturer (Two) (Hindi Literature) ; (3C) Lecturer (Two) (Education) and (3D) Lecturer (Two) Applied Linguistics** (Leave Vacancy) in the Kendriya Hindi Sansthan.

Reservation : Professor : One for S.C.; Reader for S.T., and Lecturer Three for S.C. and One for S.T.

Pay and Allowances: Professor: Rs. 1500-2500 ; Reader : Rs. 1200-1900 ; Lecturer : Rs. 700-1600. Plus all allowances admissible to Central Government employees.

Age Restriction (on 31.3.86) Professor : Not below 35 years.

Reader : Not below 30 years. Relaxable as per rules.

Reservation of Reserved Posts: Candidates of S.T. can also apply for the reserved post of Professor. Candidates of general category can also apply for the reserved post of Reader. The post of Reader reserved for S.T. will be treated as unreserved if eligible reserved candidates are not available.

Qualifications Essential (A) : **Posts** (1, 2, 3a and d). Consistently good academic record with 1st or high 2nd class (B+) Master's degree in Linguistics with Hindi at least upto Bachelor's level and/or Master's degree in Hindi with a degree or diploma in Linguistics, Applied Linguistics. **Post** (3b) Consistently good academic record with 1st or high 2nd class (B+) Master's degree in Hindi Literature. **Post** (3c) Consistently good academic record with 1st or High 2nd class (B+) Master's degree in Education with Hindi at least upto Bachelor's level.

Essential (B) : Posts : (1, 2, 3a, b, c and d)—A Doctor's degree in the concerned discipline and/or published work of an equally high standard.

Essential (C) : Post : (1) : At least ten years experience of teaching and/or research at a University or an advanced Institute in the field of language teaching/language analysis (Western or Indian) including at least three years experience of Readership or an equivalent Post. **Post** (2) : Atleast seven years experience of teaching and/or research at a university or an advanced Institute in the field of language teaching Applied Linguistics including at least five years experience of teaching and/or research at a University or an advanced Institute in the field of Language teaching/Applied Linguistics including at least five years experience of Lecturership or an equivalent post. **Post (3 a, b, c and d)** : At least one year's teaching and/or research experience at a University/Degree College/advanced Institute.

Qualification Desirable (A) : Posts (1, 2, 3a, b, c and d) : Knowledge of modern Indian Language(s) other than mother-tongue and Hindi.

Desirable (B) : Post (1) Experience of producing teaching materials, organising research and training programme for teaching of Hindi.

Posts (2, 3a and d) : Experience of research and field studies in language teaching / language analysis / Socio-linguistics/ Hindi linguistics. **Posts**—(3b & c) Training in Linguistics/Applied Linguistics.

Desirable (C) & (D) : Posts (2): Experience of teaching through mass media or correspondence and experience of research and field studies in language teaching/language analysis/Socio-linguistics/Hindi linguistics.

For application forms and other particulars write to **Director, Kendriya Hindi Sansthan, Hindi Sansthan Marg, Agra-282005** with 90 paise **Stamped** self addressed envelope (23 x 10 cm.) giving **Serial No. and Name of the Post** or obtain from counter during working days (10.30 A.M. to 5.00 p.m.). Separate application should be sent for each post. Selected candidates can be posted at Shillong-Gauhati, Hyderabad Delhi Agra or at any other Campus/ Centre established in future. Closing date for receipt of Application in Agra Office : **31.3.86.** For applicants from abroad the closing date is **15.4.86.**

CORRESPONDENCE COURSE IN EVALUATION METHODOLOGY & EXAMINATION

Applications are invited from college university teachers for admission to Correspondence Courses in Evaluation Methodology and Examinations at Basic Level, Intermediate Level and Advanced Level Special Professional Course. The duration of each of the three courses is six months. A personal 'Contact Programme' for three days is planned for each of the three courses. A set of prescribed books will be supplied to every candidate free of cost. The Basic Level Course is offered from Regional Centres like Delhi, Bombay and Madras.

Request for prospectus and application form accompanied by a crossed Indian Postal Order for Rs. 5/- drawn in favour of the Secretary, Association of Indian Universities and a self addressed stamped envelope (Re. 1/-) should reach the undersigned. Last date for receipt of applications is 15th March for non-sponsored and 26th March, 1986 for sponsored candidates.

Project Director (Examinations)

ASSOCIATION OF INDIAN UNIVERSITIES

AIU House, 16 Kotla Marg,
New Delhi-110002

MARATHWADA UNIVERSITY

AURANGABAD

Advertisement No. ESTT/RO/6/86

Applications are invited in the prescribed form from the candidates who fulfil the qualifications/conditions for the following posts so as to reach the University Office on or before **March 11, 1986.**

Qualifications & Experience

1. Director —One Post
(Adult & Continuing Education & Extension Centre)
Rs. 1500-60-1800-100-2000-125/2-2500
(UGC Scale)

(a) A person with outstanding contribution in the field of Adult, Continuing Education and Extension Work;

OR

A person with at least 10 years experience in his/her discipline and 3 to 5 years experience in Adult and Continuing Education and Extension Work.

(b) Ph.D in his/her discipline preferably in an area of Social Sciences or an area allied to Adult Education;

OR

Equivalent research work or publications to his/her credit.

(c) Experience of guiding research students is desirable.

NOTE : If a person not fulfilling the qualifications is appointed, he will be required to acquire the qualifications during the next 8 years, failing which future increment beyond that will not be given to him.

2. Assistant Director —One Post
(Adult & Continuing Education & Extension Centre)
Rs. 1200-50-1300-60-1900
(UGC Scale)

(a) **Essential**

(i) Good academic record in the subject of Adult / Continuing / Community / Extension Education/Community Development from a recognised Indian University;

OR

An equivalent degree from a Foreign University.

(ii) M.Phil. or Ph.D. in a subject related to adult learning or a Ph.D. in a subject under Social Sciences or Education/Evidence of published learning materials and learning resources on areas listed in (i) above or published research in any of the relevant area areas indicated above.

OR

(i) Good academic record in the subject of Social Sciences/Social Work/Humanities Education/Sciences Home Science.

(ii) Post Master's diploma in Adult & Continuing Education from a recognised Indian University or an equivalent diploma/degree from a Foreign University.

(iii) M.Phil. or a Ph.D. in a subject related to adult learning or a Ph.D. in a subject under Social Sciences or Education or Evidence of published learning materials and learning resources in Adult/Continuing Community/Extension Education/Community Development or published research in any of these area/areas.

Explanation

For determining 'good academic record' the following criteria shall be adopted :

(i) A candidate holding a Ph.D./M.Phil. degree should possess at least a second class Master's degree;

OR

(ii) A candidate without a Ph.D. degree should possess a high second class Master's degree and second class in the Bachelor's degree;

OR

(iii) A candidate not possessing Ph.D degree but possessing second class Master's degree should have obtained first class in the Bachelor's degree.

(b) About five years experience of field work/teaching or research in a subject having bearing on Adult/Continuing/Extension/Community Nonformal Education or Community Development. This condition may be relaxed on the recommendation of the Selection Committee.

Other Conditions

1. In the case of Assistant Director, in case a suitable candidate is not available who meets the prescribed qualifications or a qualified candidate is not found suitable by the Selection Committee the condition of Post Master's Diploma & M.Phil/Ph.D. or published learning materials or published research in the subject as stated in the qualification shall be relaxed on condition that the candidate selected fulfills the conditions prescribed within the next 8 years from the date of appointment, otherwise the increment will cease at the stage where the incumbent is at that point of time.

Age : For above posts, the candidates should not be below 30 years and above 40 years. Upper age limit is relaxable in the case of Backward Class candidates upto 5 years.

The age limit is not applicable to the candidates who are already in service of the Marathwada University.

Applications in prescribed form duly completed in all respects, should be submitted alongwith Certified True copies of the testimonials documents necessarily. Applications with incomplete details and documents will not be attended to. Candidates already in service should apply through proper channel.

The prescribed application form can be had from the University Office by sending I.P.O. worth Rs. 3/- in the name of the Registrar, Marathwada University, Aurangabad with a self addressed envelope of 23×10 cms. bearing postal stamps worth Re. 1 - to cover postage.

The prescribed application forms will be available for local candidates at the Publication Unit of the University.

REGISTRAR

ANNAMALAI UNIVERSITY

DEPARTMENT OF PHARMACY

ANNAMALAINAGAR

Dated : 11.2.1986

Applications are invited in the prescribed form for six posts of Lecturer in Pharmacy. Application forms can be had from the undersigned on payment of Rs. 10/- (not refundable) by cash/money order/postal order. Applications (with 5 additional copies) should reach the undersigned on or before **28.2.1986.**

Scale of Pay : Rs. 700-40-1100-50-1600 with usual allowances. Higher starting pay will be given keeping in view additional qualifications and experience.

Qualifications

(a) Basic degree in Pharmacy with postgraduate qualification in any one of the Pharmaceutical Sciences (Pharmaceutical Chemistry, Pharmaceutic Pharmacogney, Drug Analysis of Pharmacology).

(b) Teaching experience preferable.

R. Rajamanickam
REGISTRAR

GUJARAT UNIVERSITY

Applications are invited in the prescribed form available from The Registrar, Gujarat University, Ahmedabad-9 so as to reach him on or before 28/2/1986 for the following posts in the various Post-graduate Schools of the University.

Sr. No.	Name of the Post	No. of Post	Remarks
1.	Prof. in political Science (Third Attempt)	One	This post is reserved for Schedule Caste candidate.
2.	Prof. in Chemistry (Third Attempt)	One	This post is reserved for Scheduled Tribes candidate.
3.	Prof. in Law (Third Attempt)	One	This post is reserved for candidates belonging to Economically & Socially backward class as per Baxi Commission Report.
4.	Prof. in Physics (Third Attempt)	One	This post is reserved for Scheduled Tribes candidate.
5.	Prof. in Education	One	
6.	Prof. in Textile Chemistry	One	
7.	Prof. in Polymer Science	One	
8.	Prof. in Commerce	One	
9.	Prof. in Business Management	One	
10.	Prof. in Hindi	One	
11.	Reader in Textile Chemistry	Two	
12.	Reader in Polymer Science (Third Attempt)	Two	One post is reserved for Scheduled Caste candidates.
13.	Reader in Botany	Two	
14.	Reader in Life Science (Inter Disciplinary courses) (Second Attempt)	One	This post is reserved for Scheduled Tribes candidates.
15.	Reader in Economics (Third Attempt)	One	This post is reserved for candidates belonging to economically & socially backward classes as per Baxi Commission report.
16.	Reader in Philosophy	One	
17.	Reader in Political Science (Third Attempt)	One	This post is reserved for Scheduled Tribes candidates.
18.	Reader in Geography (Third Attempt)	One	This post is reserved for Scheduled Tribes candidates.
19.	Reader in Zoology (First Attempt)	One	This post is reserved for candidates belonging to economically and socially backward classes as per Baxi Commission report.
20.	Reader in Business Management	One	
21.	Reader in Physics	One	
22.	Lecturer in Textile Chemistry (Second Attempt)	Three	One post is reserved for Scheduled Tribes candidates.
23.	Lecturer in Chemistry	One	
24.	Lecturer in Polymer Science	One	This post is reserved for candidates belonging to economically & socially backward classes as per Baxi Commission report.
25.	Lecturer in Physics	One	
26.	Lecturer in Tamil (Third Attempt)	One	This post is reserved for Scheduled Caste candidates.
27.	Lecturer in Sanskrit (Third Attempt)	One	This post is reserved for Scheduled Tribes candidates.
28.	Lecturer in Commerce	One	This post is reserved for Scheduled Caste candidates.
29.	Lecturer in Economics	One	
30.	Lecturer in Hindi	One	
31.	Lecturer in Linguistics (First Attempt)	One	This post is reserved for Scheduled Tribes candidates.
32.	Lecturer in Persian (First Attempt)	One	This post is reserved for Scheduled Caste candidates.
33.	Lecturer in Prakrit	One	
34.	Lecturer in Sociology	One	
35.	Lecturer in History (First Attempt)	One	This post is reserved for Scheduled Tribes candidates.
36.	Lecturer in Philosophy (First Attempt)	One	This post is reserved for candidates belonging to economically & socially backward classes as per Baxi Commission report.
37.	Lecturer in Zoology	Two	
38.	Lecturer in Botany (Second Attempt)	One	This post is reserved for candidates belonging to economically & socially backward classes as per Baxi Commission report.
39.	Teaching/Research Associates in Business Management	Two	

Pay Scales—Professor : Rs. 1500-60-1800-100-2000-125/2-2500.

Reader : Rs. 1200-50-1300-60-1600-Assessment-60-1900.

Lecturer : Rs. 700-40-1100-50-1300-Assessment-50-1600.

Teaching/Research Associates : Rs. 700-40-1100-50-1300-Assessment-50-1600.

A copy of the rules governing minimum qualifications can be obtained on request.

In case of posts reserved for candidates belonging to Scheduled Castes and where there is Third Attempt, if suitable candidate of this category is not available, the candidate belonging to Scheduled Tribes will be considered, and vice-versa.

The above posts carry Dearness Allowance and other Allowances as per the rules of Gujarat University. The benefit of General Provident Fund, Gratuity and Pension will be admissible as per the rules of the University in force from time to time. The candidates selected for the above posts shall have to learn Gujarati Language during the period of probation. The initial gross monthly emoluments on the minimum salary in the scale for Professor, Reader & Lecturer, T.R.A. will be approximately Rs. 3285/-, Rs. 2895/- and Rs. 1959/- respectively.

Residential quarters may be provided on request subject to the availability

The prescribed form of application can be had on payment of Rs. 2/- payable in advance either in cash or by Postal Order. Money Order will not be accepted

S.V. Shastri
REGISTRAR

GAUHATI UNIVERSITY

GAUHATI-781014

Advertisement No. 1 of 1986

CORRIGENDUM

Read Item No. 2—The post of Professor of Physics may be treated as withdrawn from the advertisement.

Read item No. 8—Reader in Psychology 2 Posts (6th Plan)

Specialisation —(b) for the other—Experimental Social Psychology.

Read item No. 7—Reader in Geology — 1 post-Permanent

Specialisation — Pre-Cambrian Geology (Metamorphites)/ Himalayan Geology.

Persons who applied earlier against this advertisement need not apply again.

Applications will be received within 10 days from the date of publication of this corrigendum.

REGISTRAR I/c

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